



FRIDAY, SEPTEMBER 2.

Pennsylvania Railroad Standard Passenger Car—Chandelier and Furnishing.

V.

The illustrations herewith represent the chandelier and the smaller hardware attachments of the car, called "trimmings," or "furnishings." They are of a reddish straw color, highly polished and lacquered. The designs were all made at Altoona especially for these cars, and supplied to the manufacturers. They are admirably adapted for their purposes, and at the same time are artistic in their form and proportions. It will be noticed that the principles of the Queen Anne style are followed in the minutest details.

The bell-rope hangers are simple bronze rods, with pulleys and screw eyes at either end, instead of the usual gaudy leather strap.

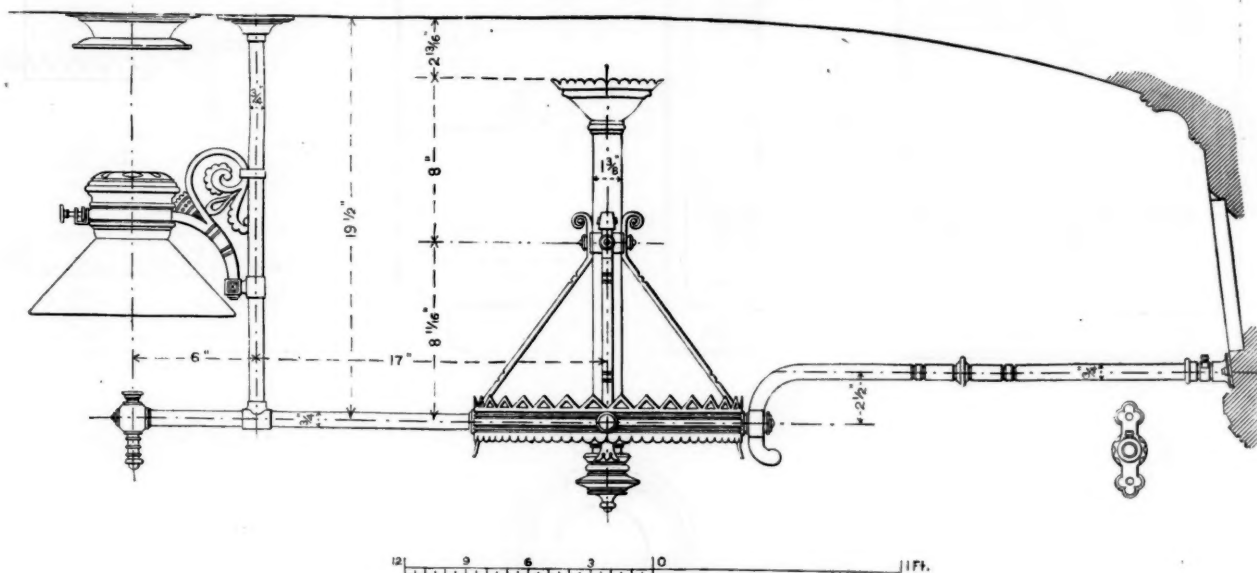
The passenger cars on the main line of this road are all lighted by gas, for which the chandelier represented by the engraving is used.

It is of the same material as the trimmings, and like them originated with these cars; three chandeliers are placed in the clear-story and assist the head lining by their location, their symmetry and their attractiveness in breaking up the length of the car. The gas furnishing the light is led to them from two tanks under the floor timbers. It is pumped into these tanks, which hold enough for 24 hours' consumption,

takes place at Cincinnati, Sept. 14 next, it may be proper to offer some suggestions in regard to the work to be done at the coming convention. This will be the third annual convention of this organization, and it would be in order for each member present to make a statement of the new ideas that have been presented to him and which he has adopted and his company profited by through his connection with the Association. In some instances this might be a hard thing to do, and for this reason. There may be those who will claim that they have never captured any new ideas at previous conventions that were worth anything to them or any one else. Happily, however, such instances are rare, but even those few who assert that they can learn nothing by attending conventions are capable of doing much harm. They hear diversities of opinions on every subject brought up for discussion, and straightway conclude that, because all expressed opinions do not coincide on the subject in hand, there is no good in conventions. It is not expected that a body of men will unanimously agree on any subject; but that is no reason why facts may not be sifted from erroneous ideas, if the proper means are employed. And it seems that the best mill to separate the sound grain from the chaff is a convention. Suppose a member is called upon to express his ideas on a certain subject. He may do so with the firm conviction that he is right, but no other member present sees it in the same light and a discussion ensues. This brings substantial proof in the case, and our friend goes home wondering why he has never seen it that way before. Again, let us take a case where the house is about equally divided and a warm discussion is held over some important matter. Perhaps no member will be convinced at the time that he is wrong, but the subject is brought forcibly to his mind and he turns it over and over for weeks and months, and he finally comes

may be profitably discussed at these conventions, and as able men have been selected to name subjects for discussion and forward a list of the same to members, it is not necessary here to make many suggestions in that line. But here is something that may be overlooked, and it is of sufficient importance to demand a hearing, that is, the usual manner of laying rails so that the wheels have no bearing except a very narrow one along the inner surface of the rail until the latter is nearly half worn out and the cone of the former destroyed by bringing the rail to its proper form. When a mechanical engineer designs a piece or pieces of machinery he makes the surfaces that come in contact (the wearing surfaces) equal, or, in other words, as much surface exposed to friction and wear when new as there would be after years of service. Fancy a master mechanic sending out a locomotive with the cross-head running on the corners of the guide-bars and waiting patiently for these members of the machine to wear down to a perfect fit! This, of course, is not likely to occur, but it would be just as sensible as the laying of rails perpendicular, whose surfaces are parallel to their bases in their cross section, while wheels are made conical. By inclining the rails inward the entire surface is exposed and brought in contact with the wheel. This gives the minimum of wear to both wheels and rails. Again, the rails being laid inclined gives far greater stability to the permanent way and reduces the liability to displacement, and there would be less accidents from spreading of rails.

And it is not altogether what one sees and hears at a convention that is profitable to him. Some of the road-masters will have a long journey to reach Cincinnati and may pass over some very poor roads and some that we may call superb. In going and coming he may learn a great



CHANDELIER FOR PENNSYLVANIA RAILROAD STANDARD PASSENGER CAR

at a pressure of over 200 lbs.; a regulator in the saloon makes the pressure at the burner constant.

The following is a list of the parts represented by the engravings and designated by the letters:

- A Blind lift.
- B Water-closet lock, knob and keeper.
- C Car door, lock and keeper.
- D Blind bolt.
- E Car-door lock escutcheon.
- F Window-latch stop.
- G Window lift.
- H Window latch.
- I Seat-back arm plate.
- J Seat-back arm pivot.
- K and L Seat-back stop.
- M Seat-lock.
- N Door-stop.
- O Clear-story window-opener.
- P Clear-story ventilator-opener.
- R Bell-cord bushing.
- S Bell-cord hanger.

These engravings complete our illustrations of the Pennsylvania Railroad passenger car.

When it is known that this car, with all its convenience, comfort, strength and beauty, costs but very little more than the old veneer and molding cars, and not as much as the majority of railroads are now paying for first-class cars, the true merit of the changes will be appreciated.

The improvements have been not only in appearance but in construction. By reason of this and the increased facilities and perfected organization of the Altoona shops, which are now capable of turning out 12 such cars each month, the time of building has been reduced from 90 to 40 days.

The weight of the car is 42,000 lbs., and it has capacity for 52 passengers.

Contributions.

The Road-Masters' Convention.

TO THE EDITOR OF THE RAILROAD GAZETTE:

In view of the short time that intervenes before the convention of the International Road-Masters' Association, which

down to the facts in the case, which may be greatly at variance with his preconceived notions, or they may be in full accord with his stereotyped ideas. In either case the conservative member will feel a great satisfaction in knowing that if he was wrong he is now right, and that if he was right he was right, and that his opponents will eventually come around to his ground and give him the credit that is due him for being right. If everyone saw things alike, there would be no need of associations or conventions; but as there are about as many different ideas and opinions on any given subject as there are persons concerned therewith, there seems to be no better way to get at facts than through the workings of an association. It is true that a great deal of time is wasted in unprofitable discussion at all conventions, but this is owing mainly to defective management or neglect of duty on the part of the officers of the associations. Questions for discussion should be prepared and sent to members at least three months before the meeting. This would give ample time to get facts and figures into shape, so that they could be presented in a brief, concise and effective form. This would give members time to give reasons for their belief or opinions, and no opinion is worth anything unless supported by substantial reasons or facts. Suppose a member is asked, "Which kind of frog do you consider the best?" He answers, "Blank's frog." He should then be called upon to explain why Blank's frog is the best. The average small boy, when called upon to give reasons, usually answers "Cause 'tis." But it would hardly be satisfactory to say that Blank's frog or switch is the best because it is the best. To know why these appliances and fixtures are superior to others is what is wanted. It would not be a bad idea for each member to make a note of his experience with the various fixtures in use on his road and adding his views as to the good and bad qualities of each article. When he is alone he would be more likely to write down correct ideas than he would to express them hastily before a crowd of listeners.

The object of a convention of road-masters is to concentrate, and at the same time disseminate, useful information, and to this end every member should carry something on his note book or in his head that would be interesting and profitable to the convention. There is no lack of subjects that

deal. Now it is not expected that the man from the roads of thin traffic will go home and resolve to make his road as good as some of the trunk lines he has passed over, but it is hoped that he will bring his track as nearly up to the standard of the best he has seen as possible, consistent with economy.

This is a busy time on most roads, and many of the road-masters may find it difficult to attend the convention, but in most cases it can be arranged so that they can leave if there is a disposition to do so. WM. S. HUNTINGTON.

Earthwork Calculations.

MANSFIELD, LA., Aug. 17, 1881.

TO THE EDITOR OF THE RAILROAD GAZETTE:

New and short formula for calculating the cubical content of the section of an embankment from crown to toe, which consists of a wedge and two pyramids:

Let W = cubical content of wedge,

S = slope ratio,

R = width of road-bed.

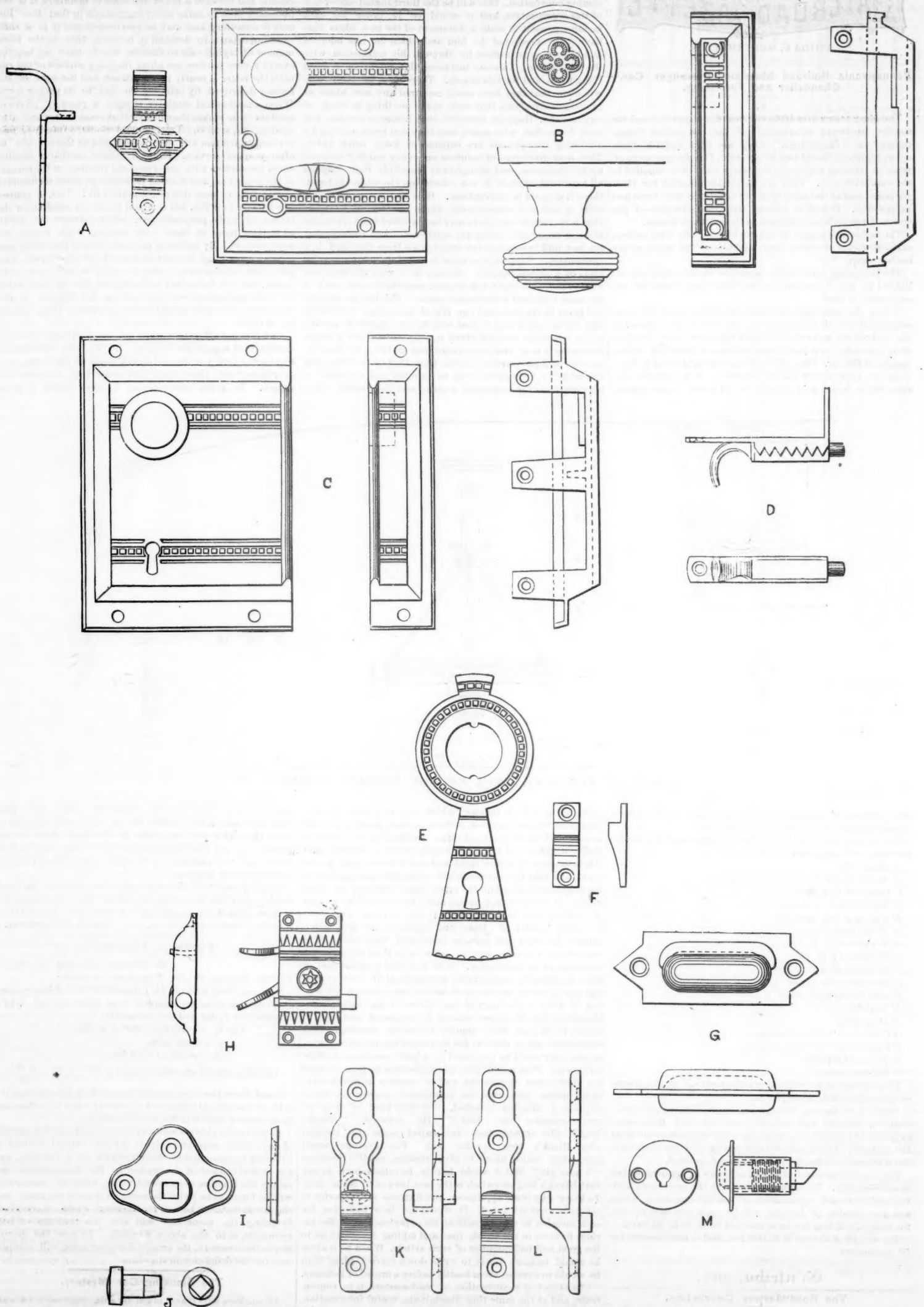
Cubical content of entire section = $W + \left\{ W \times \frac{4S}{3R} \right\}$

S and R are the only variable elements in determining the ratio of the cubical content of pyramid to that of wedge, and their effect is shown in the above formula.

To prove the above absolutely correct, take such a section of any crown, slope and height; let the cubical content of pyramid as computed be the numerator of a fraction, and the cubical content of the wedge be the denominator, and reduce the fraction to its lowest terms, when the numerator will be found to be twice the assumed slope of the ratio, and the denominator to be half the assumed width of road-bed. Doubling the numerator will give the contents of both pyramids, as in the above formula. In case the ground slopes transversely, the excess of one pyramid will compensate for the deficiency in the other.

The Smoking Car Mystery.

All smokers who travel much by rail, especially on suburban trains, have noticed—often with much disgust—that the smoking cars are filled with people who never smoke, to the exclusion of their rightful occupants. Mr. Alden, the



FURNISHINGS FOR PENNSYLVANIA RAILROAD STANDARD PASSENGER CAR.

(See page 477.)

philosopher of the New York Times, has noted this fact and explains it as follows:

We are inclined to boast of the various conveniences offered to the traveling public by our railway companies. In addition to ordinary passenger cars, we have palace cars, sleeping cars, dining cars and smoking cars, together with a peripatetic library in charge of the news-boy. While the railway companies undoubtedly deserve credit for what they have done, they have, nevertheless, been strangely negligent in one respect. They have failed to provide a "car of refuge" for passengers who have special reasons for secluding themselves from the rest of the passengers. Such a car is as necessary as a smoking car or a sleeping car, and would command the enthusiastic approval of a very large class of American travelers.

Any one who enters a smoking car at any station, except the one from which the train takes its original departure, will be struck by the small number of its occupants who are actually smoking. The smoking car is, of course, designed especially for the use of smokers. They are very properly forbidden to indulge in smoking in any other part of the train, but the smoking car is set apart for their benefit. Now, on a train of six or eight cars the smoking car will

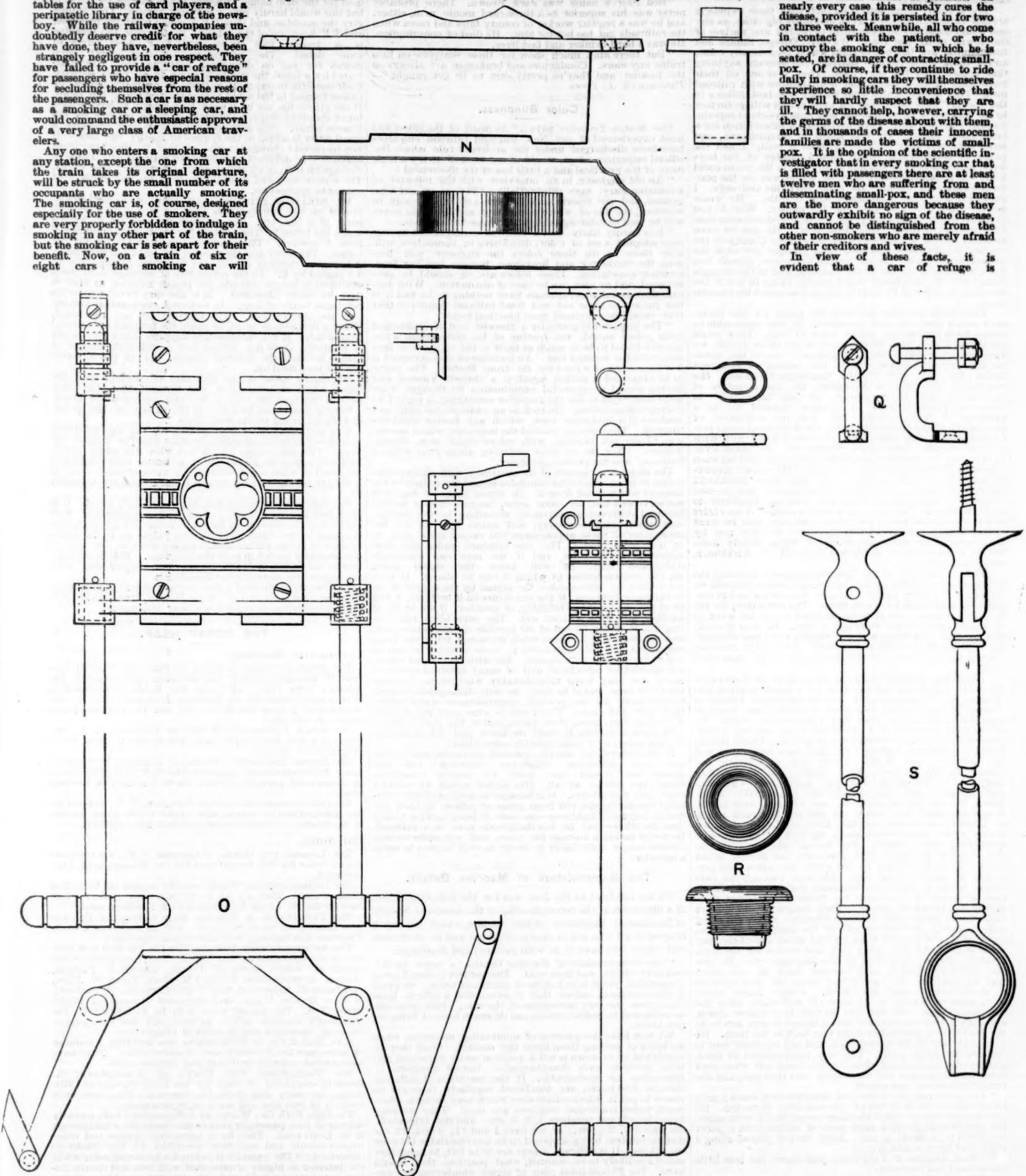
smoke has hitherto been a mystery, but a careful scientific person has lately investigated the matter and has found a full explanation of it.

The investigator, who in the pursuit of his inquiry traveled for two years on the trains of half a dozen railways bringing passengers to New York, asserts that of the forty non-

smoke is almost certain to cure small-pox in the stage of the disease just prior to the eruption. Hence, the first thing which the physician prescribes who is called in to attend to a case of incipient small-pox is a ride in a smoking car. The patient is instructed not to smoke, but to seat himself next to a smoker, and to inhale as much smoke as possible. In

nearly every case this remedy cures the disease, provided it is persisted in for two or three weeks. Meanwhile, all who come in contact with the patient, or who occupy the smoking car in which he is seated, are in danger of contracting small-pox. Of course, if they continue to ride daily in smoking cars they will themselves experience so little inconvenience that they will hardly suspect that they are ill. They cannot help, however, carrying the germs of the disease about with them, and in thousands of cases their innocent families are made the victims of small-pox. It is the opinion of the scientific investigator that in every smoking car that is filled with passengers there are at least twelve men who are suffering from and disseminating small-pox, and these men are the more dangerous because they outwardly exhibit no sign of the disease, and cannot be distinguished from the other non-smokers who are merely afraid of their creditors and wives.

In view of these facts, it is evident that a car of refuge is



FURNISHINGS FOR PENNSYLVANIA RAILROAD STANDARD PASSENGER CAR.

(See page 477.)

seldom hold all the men who desire to smoke. We would, therefore, expect that the occupants of the smoking car would be, without exception, persons who are either in the act of smoking or whose pipes or cigars have just gone out. Nevertheless, it is a well-established fact that of the sixty men who fill up every seat in the smoking car of an ordinary morning train only ten are actually smoking, while perhaps ten more have just had their usual cigar. The remaining forty are men who either never smoke at all or who never smoke on board a railway train. Those forty non-smokers monopolize two-thirds of the seats in the smoking car, thereby keeping out forty smokers and provoking them to the use of inexcusable language. Why these curious persons thrust themselves into smoking cars where they do not intend to

smokers found in every smoking car twelve are men who have reason to believe that their creditors are on board the train, and who have fled to the smoking car to avoid them. Ten other non-smokers have just quarreled with their wives, whom they have left in another car, and who cannot follow them with angry tongue and umbrella to the smoking car. Of the remaining eighteen non-smokers six are men who cannot smoke without becoming deathly sick, but who wish to make their lady friends believe that they are confirmed smokers, and who, therefore, always make a point of riding in the smoking car, and twelve are suffering from small-pox in its first and most contagious stage.

Of late years it is understood that physicians have discovered that an atmosphere impregnated with tobacco

needed on every train. It should be divided into compartments, one for the men who wish to escape from other passengers and one for those afflicted with small-pox, the latter compartment being artificially filled with tobacco smoke. There will then be room in the smoking car for the passengers for whom smoking cars are meant, and smokers will no longer be crowded out of their seats and exposed to the danger of small-pox. On those railways where no cars of refuge are provided smokers must either induce the company to forbid any man to sit in a smoking car unless he is smoking or else they must protect themselves. Violence is ordinarily to be deprecated, but self-preservation is the first law of nature, and men cannot be expected to calmly permit themselves to be exposed to small-pox.

Three-Card Monte on the Erie.

"They give us a little whirl once in a while now," said an old Erie Railway conductor, "but we've got 'em down so fine that they can't work our trains with much profit. Ten years ago were the flush times with our monte men and confidence operators."

"It's a funny thing, but it's a fact, that these swindlers are not experts from New York and other big cities, as any one would naturally suppose them to be, but are natives of the towns along the road. Waverly, Owego, Elmira and Binghamton are the places from which they usually come, and I think these country sharpers can discount anything that comes from the big cities. They presume on their knowledge of the country and acquaintance with railroad men. They are generally what we call 'the best fellows in the world.' They don't care for money, and will go further to do any one a favor than the best Sunday-school superintendent you ever saw. Once we started a subscription for a brakeman's family. He was killed at Susquehanna, and left a wife and four children without a cent. I had the paper at Binghamton, where quite a number of the boys were, and was talking about it so any one in the room could hear. A preacher-looking sort of fellow was on the platform waiting for a train. He came up to me and says: 'I guess I'll help this brakeman's wife a little.' He wrote down, 'Cash, \$50,' and gave me the money. Who do you suppose he was? John Bailey, the worst confidence man that ever worked a train. He's dead now. He got an even hundred out of a granger from Alleghany County on the 'busted stock-raiser' business. The granger got on to the swindle at Addison. He just necked the fellow, shoved him down the aisle of the car to the platform, and in the struggle Bailey fell off. His father was a county judge in one of the northern counties of Pennsylvania, and they sent his remains home."

"Emigrants ten years ago were big game for the three-card monte men and other swindlers. It was impossible to watch them because the trains were so long. They could get through with their business and off the train before we knew anything was wrong. 'Big Jersey,' one of the quietest fellows you ever saw, was the boss worker of emigrant trains; he could talk all the languages there are. His real name was Warren Kirkham. He was a native of Baltimore, but lived nearly all his later life in Northern Pennsylvania; he always claimed to be a graduate of Yale College. He was the originator of very many of the card tricks with which slight-of-hand performers amuse their audiences. He could handle cards with a dexterity that was simply wonderful. He took over \$3,000 from an emigrant train on the Central road between Auburn and Canandaigua in one night. He was an inveterate faro player. One night he went into Steve Bradford's place in Scranton—the Major's, they used to call it—and won \$9,000, breaking the bank, and causing Bradford to leave the place. The same night he was robbed of the entire sum in a notorious resort in Commercial alley, and he went to New Mexico; he was killed there in a drunken row by the brother of the brakeman in aid of whose family John Bailey, a chum and an occasional assistant of Kirkham's, subscribed \$50."

"But the vigilance of the men who are now running the Erie has about broken up the three-card monte business on our cars. We know pretty well now who the swindlers are, and we always keep an eye on them. The other day, for the first time in years, one of them managed to get his work in on a passenger and got \$400 out of him. He was spotted, though, by a brakeman, and was caught as he was attempting to jump off the train at Belvidere. He's in the Steuben County jail now, and no doubt he will serve the state for a spell."

"About the neatest thing any of the Erie employees ever did in the way of getting the best of a train sharper was 'Poppy' Ayer's capture of a well-known expert known as 'Bunky' Silver. Silver had been a printer, and could do more tricks with cards than any fellow I ever knew. He hailed from Syracuse, if I remember right, and did a first-class business on the Central for a long time. Under the old Union management trains on the Erie were rather few and far between, and finally Silver got to working our trains, as the chances were better for his getting away with his gains. He got down into Cattaraugus County, and one night at Ellicottville swindled a lawyer out of \$100 by one of his card tricks. It was necessary for him to get out, and he struck across to Dayton, a station on the Erie road. He boarded Poppy Ayer's train, which had a big load of Swedes who were going out to Illinois. The Swedes who emigrated to this country in those days generally had money about them. What does Silver do but watch his chance and personate an agent of the road. He went through the cars telling them in their own language, for he could talk it, that it would be necessary for them to exchange their money for American money. Then emigrants did not get their money exchanged in Castle Garden. Silver got a big pile of money and shoved off on the emigrants a lot of queer stuff. When the train arrived in an out-of-the-way place he gave the bell-rope a jerk and waited for the train to stop. Poppy Ayer was in the baggage car. He saw the bell-rope jerked, and hurried back to see what was the matter. He saw Silver jump off and start on a dead run across the fields. Poppy knew something must be wrong, so he hops off, and starts after the sharper. Poppy was fat, but he ran that fellow down, although it took the distance across three ten acre lots to do it. He collared him and brought him back to the train. He got every cent of the money back, and had the thief sent to Auburn for seven years. Pop was reprimanded at headquarters for leaving and delaying his train, but when they investigated the case the reprimand was remitted, and the conductor's salary was raised."

"Ten years ago one of the boss card sharpers was a young fellow known as 'Red Shirt.' He was from Scranton. He was the one who invented the tissue-paper racket with cards. His plan was to get up a quiet game of euchre with a party of fellows in a smoking car. After they'd played along a while Red Shirt would say:

"Well, damme, if I ain't got just about the best little poker hand you ever saw."

"Whenever he'd say that, you could make up your mind that some one else a playing had about as good a poker hand as you ever saw. It was always four aces. The man that held the four aces wouldn't fail to speak out, and reckon he had a hand it wasn't easy to beat. Then Red Shirt would say:

"S'pose we make a little bet, just for the fun o' the thing."

"A man that holds four aces ain't going to throw away a chance of that kind. They bet. They raise one another, and Red Shirt knows about when it will be a good time to quit, and then he calls."

"I've got four aces," says t'other man.

"Let's see 'em," says Red Shirt.

"The cards are shown up. Red Shirt takes 'em up."

"Aw, here now," he says, as he puts his hands on the money on the board, "what you doin', tryin' to come your New York games on me?" and he gives one o' the cards a rub with his thumb and shoves a little piece of paper off

each end of the card, and there's a tray spot. Red Shirt lays down four of a kind, or a full, or anything that'll beat three of a kind, and before the man can recover from his astonishment, has the money in his pocket and is off the cars, for he never failed to time the game for a stop of the train at some station."

"Red Shirt's name was Jack Brown. There probably never was his superior as a three-card monte man, either, and he was a regular worker of county fairs and races when the railroads got too hot for him. He died of consumption. He was a hard drinker and fast liver."

"But there ain't much show for these sharpers on Erie trains any more. Conductors and brakemen are always on the lookout, and they're pretty sure to be got caught."—*Paterson (N. J.) Press.*

Color Blindness.

The *Boston Traveller* says: "As many of the oldest and most experienced of our New England railroad employees have been discharged under the arbitrary rule which the official inspectors adopt, would it not be well to try a little more of the practical and a little less of the theoretical?"

"An old engineer, in an interview with the reporter of a contemporary, says substantially: 'Try us on our own ground, and not resort to a collection of fancy colors in words, the like of which never have, and probably never will be used to color signal lights or flags on railroads.'"

"It is hardly likely that a railroad management having once adopted a set of color distinctive in themselves, will alter them. With these colors the engineer and fireman, the conductor and brakeman become familiar from constant association. These colors are, or should be, pronounced, and as such can be easy of distinction. With delicate tints and shades railroads have nothing to do, and it is but justice to these old and tried railroad employees that they should be examined upon practical tests."

"The inspector is generally a theorist, and if questioned upon colors outside the routine of his instructions is frequently found to be as much at fault as the engineer or fireman with the worsted test. An instance of this occurred a few days since on a road not far from Boston. The party to be examined (a station agent) is a shrewd Yankee, and having passed a successful examination he thought it no more than right to ask the inspector something in regard to distinguishing colors. He took as an example the light and shadows of a landscape view, which any farmer could distinguish. The question puzzled the inspector, whose answer was, 'I am not familiar with colors under such circumstances.' 'Nor do we know anything about your worsted business,' was the prompt rejoinder."

The above is a sample of the obstinacy with which people refuse to learn what color-blindness is, and the nature of the dangers which result from it. A signal lamp or flag will not serve as a test for color sense, because it has several hundred different appearances, according to the circumstances attending its display, and unless you can try the man under all these appearances you cannot know that he is not color-blind. The one constant under all these appearances is its color, and if the man can absolutely distinguish that, he will know the signal under all the circumstances in which it can be placed. If he is color-blind he distinguishes the signal by the degree of its darkness or lightness; if the sun shines on it brightly, it will be of one shade; if less brightly, of another; if not at all, of another, and so on without end. The color-blind may distinguish it under 50 out of 60 possible circumstances, say, and yet there will be times when he cannot tell green from red, and it is utterly impossible to know whether he can or not by trying him with signals. But with the colored yarns, not affected by reflections, and of many different shades of color, you may learn unmistakably whether he possesses the color sense, and if he does, he will distinguish colored signals under all the possible circumstances which affect their light and shade. There will be some reds just as dark as some greens among these yarns, and if the person tested sorts them according to their darkness and not according to their color, he is unmistakably color-blind."

If the color-blind merely guessed at colors, and never saw any difference whatever between red and green, we would not need to trouble ourselves about the matter at all. His defect would be evident every day and always. It is because in most cases the color-blind can distinguish red from green or yellow by their different degrees of lightness—one usually being grayer to him than the other—that he is a dangerous man on a railroad. He never makes a mistake for years, and yet under certain circumstances, quite likely to occur, he will be sure to make a mistake."

The Nomenclature of Machine Details.

We are indebted to the *Iron Age* for the following report of a discussion at the recent meeting of the American Society of Mechanical Engineers on this subject, which has much interest to all who are in charge of shops and to draftsmen and others who have to do with patterns and drawings:

"The Nomenclature of Machine Details," a paper by Mr. OBERLIN SMITH, was then read. This subject is one of great importance, yet it is in a state of much confusion. So great is this confusion, indeed, that it seems that a reform must come from the very necessities of the case. Both scientific societies and technical schools can do much toward bringing this about."

We first have the question of numbering machines, when we think of putting them upon the market. Shall they be numbered up or down is not a question easily answered, and both methods have disadvantages. Indeed numbers in themselves are undesirable. If the machines of different sizes, as first made, are numbered regularly there are no places to put in intermediate sizes which may be made afterward, unless fractional numbers are used. Thus we may have the original numbers 1, 2, 3, etc., and the intermediate sizes $1\frac{1}{2}$, $2\frac{1}{2}$, etc.; or, we have 1 and 11, 2 and 22, the double numbers being supposed to be intermediates between the others. It is difficult, if gaps are to be left, to know how many are likely to be wanted, what positions they should have. The Philadelphia plan of street numbering has certain advantages which should not be overlooked."

A system of names for the details is needed at almost every step of machine production. These names are absolutely essential for drawings, lists, patterns, etc., and in a good system the arrangement should be such that each name should completely designate that portion of the machine to which it is applied, and isolate it from all others."

Here two or three suggestions were made which were of much value. The name should be accurate, suggestive, a help to the memory, and brief. Usually names which are accurately descriptive are not brief, being derived from one another in an interminable way. To suit the wants of the shop we need an elastic, comprehensive system. The speaker then gave an outline of one which he had employed in his own establishment."

At first the machines built were numbered and the details lettered. As the details are what may be termed units or single pieces—that is, the elements of a machine—the alphabet was soon exhausted and double letters were used. Next,

the machines were lettered and the details numbered. Still another experiment was tried, when figures were used for both machines and details, but this lacked suggestiveness. The system finally adopted was to give the machine a name, and have a piece or detail name also. The machines have names composed of three words, the initials of which are used for the shop name. Brevity would call for two names, but this would hardly give a sufficient variety. The capitals give the machine, and thus T P A would mean the machine, and T P A-2 one of the details. In this case the machine is a treadle foot press, and T P A-2 refers to some detail. The advantage of such short shop names for use on drawings, patterns, etc., was illustrated by a table, the symbolic name in all cases showing itself one-fifth to one-tenth as long as ordinary names, or names formed in the usual haphazard fashion of the shops. If the article has not been made long enough to have settled into a standard shape, no attempt is made to thus fix the nomenclature. If a part goes out of style or is changed, a small letter is added to the symbol to signify the fact. If any important change is made, so that the machine itself appears to be different, it is given an entirely new name to distinguish it from all others which are made in the works. The system described seemed very complete and capable of extensive application."

Mr. STRATTON gave some particulars of the method employed on the Pennsylvania road for designating various parts of a car, etc. The castings for cars are all known under the letter V. The castings for trucks are all numbered from 1 upward. Then come the castings for freight car bodies. The letter and the number are cast upon each piece. All engine castings are X; the ferryboat castings are all designated by F. In the catalogues of castings, each one is described at length opposite the proper number, so that it may be easily identified. It is also easy to refer from the catalogue to the casting. In ordering, the numbers and letters are always used. The forgings are not numbered. When a new engine is to be built, the forgings are ordered from a list. It not infrequently happens that they run off of numbers, from not having left a sufficient number of blanks between the different classes. As yet, the alphabet has not been used up."

Mr. SMITH spoke of the difficulty of dealing with the names which customers give, and thought that, for accuracy in ordering, the year of the catalogue should be given. Several gentlemen took part in the debate at this point, and the following points were made:

If in getting an order from a distance, the manufacturer is in doubt as to its meaning, he must wait for further advice. This may entail long delays when the order comes half way round the globe, but it is better than making a shipment of what is not wanted. A nomenclature even in a shop is difficult to keep up if it is not constantly attended to."

The difficulties of translation are exceedingly great. It is often best to have a literary man make a translation, with instructions to convert all technical terms literally from one language to the other, using his own judgment in the signification of terms, rather than trust the work to one who is mechanically posted in only one language. The interpretation to the skilled mechanic is then often simpler than with the apparently more correct translation."

At Frankford Arsenal a very perfect system of nomenclature has been perfected by Major Metcalf, from whom, it is said, information in regard to it may be obtained."

THE SCRAP HEAP.

Locomotive Building.

The Atchison, Topeka & Santa Fe road has received this year 75 locomotives, and has 100 more under contract for delivery next year. Of these the Baldwin Locomotive Works are to build 40, the Hinkley Locomotive Co. 35, the Manchester Locomotive Works 15, and the Taunton Locomotive Works 10.

The Grant Locomotive Works, at Paterson, N. J., are building a new locomotive to be run by the Holland "hydrogen fuel" process.

The Brooks Locomotive Works, at Dunkirk, N. Y., have lately delivered several engines to the New York, Chicago & St. Louis road, part of an order for 60 locomotives for that road.

The three locomotive works in Paterson, N. J., shipped 40 new locomotives in August, and expect to do quite as well in September. All are working to their full capacity.

Car Notes.

The Laconia Car Works, at Laconia, N. H., are completing an order for 200 freight cars for the Massachusetts Central road.

The Indianapolis Car Works recently turned out their first finished cars. They are at work on a large order for box cars for the St. Louis, Iron Mountain & Southern road.

The Philadelphia & Reading shops at Reading, Pa., are now turning out about 30 freight and 18 coal cars a week. They are also building several new passenger cars.

The American Palace Sleeping Car Co. has filed new articles of incorporation in New York. The incorporators are Adam H. Ward, Aaron H. Cragin, Joseph H. Parsons, Horace E. Dillingham, Edward M. Clark, Frank W. Allen, and Isaiah E. Emery, of New York; Cornelius S. Bushnell, of New Haven, Conn., and Sheppard Homans, of Englewood, N. J. The capital stock is to be \$10,000,000. The company's business will be to build, sell and lease palace, sleeping, passenger and all kinds of freight cars.

J. G. Brill & Co., in Philadelphia, are building a number of horse cars for Southern and Western cities. They have also several orders from Brazil and Mexico to fill.

The Youngstown Car Works, at Youngstown, O., recently completed 12 cars for the Lucy Furnace at Pittsburgh, to carry slag from the furnace. They are built entirely of iron and will carry eight tons each.

The Ohio Falls Car Works, at Jeffersonville, Ind., recently delivered two passenger cars to the Nashville, Chattanooga & St. Louis road. They have automatic brakes and other improvements and are thus described by the *Nashville American*: "The exterior is painted a brownish color while the interior is highly ornamented with ash and cherry linings, presenting a light and airy appearance. The seats are longer than usual and sufficiently large to accommodate, without annoyance, two adipose gentlemen. The windows are as wide as the space occupied by the seat, affording a better view of the scenery along the road than the general run of cars. They contain storm doors, which act as a double purpose of preventing dust and sparks from coming into the car when the outer door is opened and shutting from view the saloons. At one end of the car a washstand and mirror have been provided in a small apartment set apart for that purpose. Every new improvement has been put in these cars, even down to a steam-heating apparatus which does away with the necessity of stoves."

Bridge Notes.

Plans have been prepared for the new bridge which the Richmond, Allegheny & Ohio Central Company intends to build across the Ohio at Pom-roy. The channel span will be 400 ft. long and 90 ft. above low water. There will be no draw-span."

The Pittsburgh Bridge Works have lately taken contracts for several large highway bridges.

Iron and Manufacturing Notes.

The Revolving Scraper Co., at Columbus, O., has done a larger business during the last six months than ever before. A very large number of scrapers has been sent to parties in this country and Europe, and the works are now running to their fullest capacity on orders.

The Iron Mountain Furnace Co. has been organized at Ironton, Wis., to build a blast furnace there. The Carbon Rolling Mill Co. will soon start up its rolling mill at Weissport, Pa., which has been idle for some time. The mill is now being repaired and put in order.

Mr. Jerome L. Boyer has accepted the present management of the Chestnut Hill Iron Ore Co. at Columbia; main office, No. 52 Wall street, New York. He will have entire charge of its three blast furnaces, the Chestnut Hill Mines, Buchanan Valley Railroad and mines in Maryland, etc. The company has the Shawnee Rolling Mill, Foundry and Machine Shops, also located at Columbia. Moses Taylor, John Fyne and Benjamin Clark, of New York; Samuel Thomas, of Catasauqua, and Mr. Boyer, of Reading, are the sole proprietors of these extensive works.—*Reading (Pa.) Eagle.*

The rolling mills at Niles, O., are to be removed to New Philadelphia, O., that village having subscribed \$50,000 as an inducement for the change.

Williams & Co., at Alliance, O., are adding to their works a one-story building intended for the erection of heavy machinery.

The difficulty which arose in working under the "Pittsburgh Scale," adopted last June, caused the closing of the Eureka Iron Works in Detroit on July 1. The trouble has now been adjusted and the works will start up Sept. 5.

The Rail Market.

The Iron Age says of steel rails: "The demand is very active, but sellers are inclined to complete some of their old contracts before entering into new engagements. Buyers are very urgent and would probably meet sellers' views as to prices if by so doing orders could be placed. Manufacturers claim that they are already nearly two-thirds full for a year to come, and wish to keep the balance open for contingencies. Even if prices are no higher accidents may occur, and it is only prudent to leave so no margin to work on. To regular customers probably \$57 to \$60 would be named, according to delivery, but to outside buyers no quotations are given. The demand for foreign rails is also very heavy, but January shipments are about as early as can be obtained. Prices are firmer and \$62.50 to \$65 for light sections is quoted delivered at New Orleans or Galveston."

For iron rails there is also an active demand and large sales are reported. It is said that more sales could be made if prompt deliveries could be obtained, but the mills are all full. Quotations vary from \$47 to \$47.50 for heavy sections, up to \$53 per ton at mill for light rails.

Old iron rails are unsettled and higher, with more demand, though few sales are reported. Philadelphia quotations are \$27.50 to \$28 per ton for flanges and \$29.50 to \$30 for double-heads.

Steel blooms are in active demand for making rails, and several sales are reported at from \$43 to \$44.50 per ton, duty paid.

Spikes are in active demand and quoted at \$2.75 per 100 lbs.; fish-plates, \$2.30 to \$2.40; track-bolts, \$3.25 to \$3.75, according to specification.

British Rail Exports.

For the month of July and the seven months then ending the exports of steel and iron rails from Great Britain have been (in tons of 2,240 lbs.) for the past three years:

	To United States.			To all countries.		
July:	1879.	1880.	1881.	1879.	1880.	1881.
Iron	30	7,785	6,728	3,955	10,745	9,512
Steel	1,188	7,034	20,096	32,864	53,798	65,100
Total	1,218	14,829	26,824	36,819	64,543	74,612

Thus we took less iron rails this year than last, but nearly three times as many steel rails, and our total July imports were 10,000 tons, or more than 80 per cent., more this year. Our total imports for this month would suffice for 3.5 miles of track of 56 lbs. rails. It is only the increase in exports to the United States that has kept up the total British exports of rails. But for them there would have been a decrease from 49,719 to 47,788 tons in the British exports. We have taken 36 per cent. of the whole this year, against 23 per cent. last. The exports for the seven months were:

	To United States.			To all countries.		
July:	1879.	1880.	1881.	1879.	1880.	1881.
Iron	321	70,456	71,813	23,223	94,529	82,939
Steel	8,617	70,931	112,842	184,623	287,357	332,487
Total	8,938	141,417	184,655	207,846	381,833	415,426

We have thus taken during the seven months this year nearly the same quantity of iron rails as last year, but nearly 42,000 tons, or 60 per cent., more steel. Our imports were sufficient for 102 miles of track in 1879, for 1,607 miles in 1880, and for 2,098 miles this year.

Exports to the United States in successive months have been:

	1881.			1880.		
	Steel.	Iron.	Total.	Steel.	Iron.	Total.
January	1,705	5,666	7,369	7,350	7,941	15,291
February	4,390	10,419	14,799	6,162	6,608	12,770
March	14,891	10,829	25,720	4,010	10,518	14,528
April	28,050	10,352	38,402	7,075	13,727	20,802
May	22,618	17,206	39,824	22,968	6,305	29,273
June	21,082	10,616	31,698	16,342	17,572	33,914
July	20,096	6,728	26,824	7,054	7,785	14,829

Thus the exports of steel to this country were the smallest for four months last July, as were the total exports, while the exports of iron were the smallest for six months. The exports to the United States also fell off in July last year.

Running Their Own Caboosees.

The freight conductors on the Chicago, Milwaukee & St. Paul are very much gratified over a new arrangement by which each one has the exclusive control of a caboose. Heretofore the cabooses have run in on one train and out on another just as it happened, so that the conductors had to remove all their personal effects from the car immediately upon arriving. Beside this, under the old arrangement, there was no inducement to fix up a car to make it look at all pleasant in appearance. Under the new rule when a conductor stops off a day his car is side tracked, and, in fact, it is precisely the same as though he owned it. To make the new arrangement a success, four new cupola cabooses have been purchased.—*La Crosse (Wis.) Republican.*

Zinc for Boiler Incrustations—A Singular Result.

A curious thing occurred lately in the works of M. Fleury, at Certe, France. The feed water of the boiler giving much incrustation, M. Fleury was advised to put into the boiler some fragments of zinc as a deincrustant, and did so. In a few days, spite of oiling, the steam engine began to work

RAILROAD EARNINGS IN JULY.

NAME OF ROAD.	MILEAGE.					EARNINGS.					EARNINGS PER MILE.				
	1881.	1880.	Inc.	Dec.	P. c.	1881.	1880.	Increase.	Dec.	P. c.	1881.	1880.	Inc.	Dec.	P. c.
Ala. Gt. Southern	290	290				\$ 57,982	\$ 47,525	\$ 10,457			\$ 218	\$ 200	\$ 18		21.8
Burr. Cedar Rap. & No.	564	492	72		14.6	174,351	143,433	30,918			216	300	292	17	6.0
Cairo & St. Louis	146	146				32,636	34,146	1,510			244	234	10		4.4
Central Pacific	2,723	2,428	295		12.2	1,850,000	1,840,067	9,933			1.0	683	758		9.8
Chesapeake & Ohio	435	435				225,000	238,236	13,236			5.5	517	548		31
Chi. & Alton	840	840				671,466	708,906	37,440			5.3	799	844		45
Chi. & Eastern Ill.	227	220	7		3.2	125,884	114,128	11,756			10.3	559	519	40	7.7
Chi. Mil. & St. Paul	3,860	3,111	749		22.9	1,569,000	1,026,708	542,292			52.8	413	330	83	21.2
Chi. & Northwestern	2,771	2,490	281		11.2	1,928,000	1,669,086	258,914			13.4	606	682	76	2.1
Chi. St. P. Minn. & O.	960	780	180		23.1	364,080	236,985	127,095			53.8	380	304	76	25.0
Chi. Ind. St. L. & Chi.	300	300				178,801	204,138	25,337			12.4	506	680		84
Cin. & Springfield	81	81				82,501	80,935	1,566			1.9	1,019	999	20	1.9
Cleve. Col. Cin. & Ind.	391	391				380,135	445,378	65,243			14.6	972	1,139		16.7
Cleve. Mt. Ver. & Del.	144	157	13		8.3	29,953	30,937	984			3.2	208	197	11	5.6
Denver & Rio Grande	847	505	342		67.9	548,284	372,190	176,094			47.3	647	737		90
Des Moines & Ft. Dodge	84	84				35,875	28,181	7,694			27.5	427	336	91	27.5
Det. Lan. & No.	225	209	16		7.7	116,847	92,009	24,838			26.0	519	444	75	16.9
East Tenn. Va. & Ga.	775	775				222,760	195,556	27,204			13.9	287	252	35	13.9
Flint & Pere Marq.	318	300	18		6.0	113,640	118,489	4,849			21.4	433	378	55	14.6
Hannibal & St. Jo.	292	292				198,110	224,312	26,202			11.8	678	768		90
Houston, E. & W. Tex.	88	72	16		22.2	12,520	9,171	3,349			37.3	142	127	15	11.8
Houston & Tex. Cen.	600	510	90		16.3	237,636	227,679	9,957			4.4	396	441		45
Ill. Cent. Ill. lines.	918	918				548,936	587,732	38,796			6.6	598	640		42
Iowa lines.	402	402				168,158	136,363	31,795			23.4	418	339	79	23.4
Ind. Bloom. & West.	212	212				83,764	103,437	19,673			19.1	305	488		163
Ind. Div.	190	190				71,775	69,190	2,585			2.6	378	368	10	2.6
Ind. Dec. & Springf.	153	153				45,582	42,908	2,674			5.8	298	280	18	5.8
Ind. & Gt. Northern	639	536	103		19.9	196,062	113,254	82,808			73.3	313	211	102	48.3
Lake Erie & West.	362	362				122,960	118,352	4,608			4.0	339	327	12	4.0
Louisville & Nashv.	1,837	1,702	135		7.9	820,000	772,537	47,463			6.1	446	454		8
Memphis & Charleston	292	292				90,039	68,634	21,405			31.0	308	235	73	31.0
Memphis, Pad. & No.	115	115				20,511	17,328	3,183			18.5	178	151	27	18.5
Mill. Lake Sh. & West.	250	218	32		14.7	49,631	29,897	19,734			60.0	199	137	62	43.2
Mo. Kan. & Tex.	1,073	1,073				1,317,063	980,903	336,160			34.3	1,224	914	310	34.3
Mobile & Ohio	506	506				131,009	130,740	269			0.2	259	258	1	0.2
Nash. Chatta. & St. L.	467	454	13		3.0	150,431	151,594	1,163			0.8	322	334		12
N. Y. & England	316	282	34		12.1	241,822	210,257	31,565			15.0	765	746	19	2.5
Norfolk & Western	428	428				161,940	145,585	16,355			11.2	378	340	38	11.2
Northern Central	326	326				440,811	450,398	9,587			2.1	1,352	1,362		30
Northern Pacific	754	722	32		4.5	404,180	241,277	162,903			67.6	536	314	222	60.5
Paducah & E'town	185	185				38,819	31,739	7,080			22.0	210	172	38	22.0
Pennsylvania	1,925	1,872	53		2.8	3,780,418	3,449,644	330,774			9.6	1,904	1,843	61	6.8
Peoria Dec. & Evans.	248	190	58		30.5	51,913	42,665	9,248			21.5	209	225		16
Phila. & Reading	846	846				1,835,725	1,282,834	552,891			43.0	2,170	1,516	654	43.0
St. L. Alt. & T. H.	195	195				113,774	138,153	24,379			17.7	583	708		125
Main Line	71	71				44,900	52,924	8,024			15.1	632	745		113
Bellevue Line	685	685				517,300	432,655	84,645			18.5	755	632	123	18.5
St. L. Iron Mt. & So.	645	502	143		22.3	252,333	213,035	39,298			13.9	301	361		8.3
St. L. & San Francisco	636	636				387,488	372,089	15,399			42.4	447	415	32	7.7
St. P. Minn. & Manitoba	128	100	28		28.0	38,319	33,959	4,360			12.8	290	340		41
Seaside Valley	820	500	320		64.0	349,657	214,837	134,820			62.7	429	429		3
Texas & Pacific	3,480	3,056	424		14.1	2,528,826	1,934,215	594,611			30.7	713	631	80	12.7
Union Pacific	2,479	1,928	551		28.8	1,317,732	1,065,080	252,652			6.2	457	552		95
Wabash, St. L. & P.															
Total, 54 roads	39,681	35,467	4,214		11.9	25,796,872	21,978,485	3,818,387			17.4	650	620	30	4.8
Total increase															

RAILROAD EARNINGS, SEVEN MONTHS ENDING JULY 31.

NAME OF ROAD.	MILEAGE.					EARNINGS.					EARNINGS PER MILE.				
	1881.	1880.	Inc.	Dec.	P. c.	1881.	1880.	Increase.	Dec.	P. c.	1881.	1880.	Inc.	Dec.	P. c.
Ala. Gt. Southern	290	290				\$ 402,694	\$ 333,491	\$ 69,113			\$ 20.8	\$ 1,388	\$ 1,150	\$ 238	20.8
Burr. Cedar Rap. & No.	564	492	72		14.6	1,171,384	1,125,780	45,604			4.1	2,077	2,288		211
Cairo & St. Louis	146	146				233,373	214,105	19,268			10.3	1,618	1,437	181	10.3</



Published Every Friday.
CONDUCTED BY
S. WRIGHT DUNNING AND M. N. FORNEY.

CONTENTS.

ILLUSTRATIONS:	Page	EDITORIAL NOTES:	Page
Chandler for Pennsylvania Railroad Standard	477	GENERAL RAILROAD NEWS:	485
Passenger Car	477	Meetings and Announcements	488
Furnishings for Pennsylvania Railroad Standard Car	478, 479	Elections and Appointments	488
CONTRIBUTIONS:		Personal	487
The Road-Masters' Convention	477	Traffic and Earnings	487
Earthwork Calculations	477	The Scrap Heap	480, 488
EDITORIALS:		Old and New Roads	488
July Earnings	482	Railroad Earnings in July	481
Criminal Aspect of Railroad Strikes	482	ANNUAL REPORTS:	
The Yearly Consumption of Rails	483	Camden & Atlantic	490
New Stocks and Bonds in 1881	484	Detroit, Grand Haven & Milwaukee	490
Pennsylvania Railroad	484	Louisville & Nashville	490
July Earnings	484	MISCELLANEOUS:	
The Dirty Locomotive	484	Pennsylvania Railroad	477
The Gas Apparatus on the Reading Railroad	484	Standard Passenger Car	477
Locomotive Parallel Rod	485	The Smoking-Car Mystery	477
Record of New Railroad Construction	485	Three-Card Monte on the Erie	480
		The Nomenclature of Machine Details	480
		Color Blindness	480

EDITORIAL ANNOUNCEMENTS.

Addresses.—Business letters should be addressed and drafts made payable to THE RAILROAD GAZETTE. Communications for the attention of the Editors should be addressed EDITOR RAILROAD GAZETTE.

Advertisements.—We wish it distinctly understood that we will entertain no proposition to publish anything in this journal for pay, EXCEPT IN THE ADVERTISING COLUMNS. We give in our editorial columns OUR OWN opinions, and those only, and in our news columns present only such matter as we consider interesting and important to our readers. Those who wish to recommend their inventions, machinery, supplies, financial schemes, etc., to our readers can do so fully in our advertising columns, but it is useless to ask us to recommend them editorially, either for money or in consideration of advertising patronage.

Contributions.—Subscribers and others will materially assist us in making our news accurate and complete if they will send us early information of events which take place under their observation, such as changes in railroad officers, organizations and changes of companies, the letting, progress and completion of contracts for new works or important improvements of old ones, experiments in the construction of roads and machinery and in their management, particulars as to the business of railroads, and suggestions as to its improvement. Discussions of subjects pertaining to ALL DEPARTMENTS of railroad business by men practically acquainted with them are especially desired. Officers will oblige us by forwarding early copies of notices of meetings, elections, appointments, and especially annual reports, some notice of all of which will be published.

JULY EARNINGS.

Our monthly table has reports of the earnings in July of 54 different railroads, which this year had 39,681 miles of road, or a little more than two-fifths of the total mileage in operation in the United States. These 54 roads worked about 12 per cent. more miles of road in July this year than last, and they earned 17.4 per cent. more money, their average earnings per mile of road having increased from \$620 to \$650, or 4¾ per cent. Yet July last year was a month of extraordinarily large earnings, 52 roads then earning on the average 9¾ per cent. more per mile than in 1879—a less increase, however, than in any earlier month of 1880. Of the 54 roads reporting this year, 13 had smaller total earnings in July than last year, and no less than 20 smaller earnings per mile of road. It was to be expected that the roads which depend largely on through trunk-line traffic for their earnings would show a decrease, but only a few of the 20 have much such traffic. Such roads, with their percentage of increase or decrease in July, and the six months preceding, are as follows:

	July.	Six mos. to July 1.
Cincinnati & Springfield	Inc. 1.9 p.c.	Inc. 10.0 p.c.
Cleve., Col. & Ind.	Dec. 14.6 "	Inc. 4.2 "
Ind., Bloom. & West.	Dec. 19.1 "	Inc. 3.6 "
Northern Central	Dec. 2.1 "	Inc. 20.0 "
Pennsylvania	Inc. 9.6 "	Inc. 10.9 "
St. Louis, Alt. & Terre Haute main line	Dec. 17.7 "	Inc. 14.7 "

It thus appears that while some of these roads show a gain, all had done much better in the previous months of the year than in July, except the Pennsylvania, and the Pennsylvania, we should bear in mind, has only about 732 miles on which through trunk line traffic is carried out of a total of 1,925 miles of road, and that at this time of extraordinary activity in coal and iron traffic its local traffic is enormously increased. But as shipments have been somewhat increased by the low rates, the decrease in gross can hardly be equal to the increase in net earnings on these roads, though the decrease in local traffic has doubtless done much to make up for the decrease in profits on through traffic on many of them. Only a small fraction of the roads which have a large proportion of through

traffic have reported for July. The four Vanderbilt roads have an enormous amount of this traffic, and the Baltimore & Ohio's lines a large amount, and none of these make monthly reports; the Erie will report for July about a month later. The thousands of miles of Pennsylvania leased lines west of Pittsburgh and Erie report only the gain or loss of their net surplus over interest and rentals, and these show a small loss for July.

We have before noted that the Northwestern roads whose traffic was most interrupted by snow last winter made extraordinary gains in June and July, presumably from the "deferred traffic" which they were not able to carry in the winter and spring.

There are perhaps fewer of the enormous gains in earnings per mile that have been quite common for some time past, but there are still some very large percentages of gain, which, however, have been chiefly on roads which still have small earnings per mile. For instance, the average increase in earnings per mile having been from \$620 to \$650, or \$30 and 4.8 per cent., the International & Great Northern has gained \$102, yet reached only \$313; the Milwaukee, Lake Shore & Western increased 45 per cent., to \$199; the Missouri Pacific 34 per cent., to \$1,228; the Northern Pacific 60½ per cent., to \$536, and the Reading 43 per cent., to \$2,170. Only two of these roads have as much as the average earnings per mile.

The largest decreases in earnings per mile were 14.6 per cent. on the Cleveland, Columbus, Cincinnati & Indianapolis, 19.1 on the Indiana, Bloomington & Western, 17.7 on the Main Line of the St. Louis, Alton & Terre Haute, 15.1 on the Belleville Line of the same road, and 17.2 on the Wabash, which latter has so much new road that the comparison is not so significant as in the other cases. All these roads but two had more than the average earnings per mile last year.

The largest and smallest earnings per mile in July were as follows this year:

Largest.	Earnings per mile.	Smallest.	Earnings per mile.
Reading	\$2,170	Hous. E. & W. Tex.	\$142
Pennsylvania	1,084	Mem. Pad. & North.	178
Northern Cen.	1,352	Mill. Lake Shore & W.	199
Missouri Pac.	1,228	Ala. Gt. South.	200
Cincin. & Spring.	1,019	Cleve., Mt. V. & Del.	208
Cleve., Col. & Ind.	972	Peoria, Dec. & Ev.	209
Chicago & Alton	799	Paducah & E'town	210
N. Y. & New Eng.	765	Cairo & St. Louis	224
Iron Mountain	755	Mobile & Ohio	259
Union Pacific	713	E. Tenn., Va. & Ga.	287
		Ind., Dec. & Spring.	298
		Scioto Valley	299

The first column includes all the roads earning more than \$700 per mile in July; the second, all those earnings less than \$300 per mile. The immense difference in the traffic and earnings per mile on different roads is not sufficiently appreciated. The largest earnings per mile here reported are more than fifteen times the smallest.

Below we give our usual table of earnings per mile of road in July, for six successive years:

	1876.	1877.	1878.	1879.	1880.	1881.
Ala. Gt. Southern	\$178	\$178	\$245	\$113	\$104	\$200
Burl. C. R. & North.	\$190	\$178	\$245	\$245	\$245	\$245
Cairo & St. Louis	150	110	128	154	234	224
Central Pacific	1,085	741	728	637	758	683
Chesapeake & Ohio			322	399	548	517
Chicago & Alton	620	451	639	639	844	799
Chicago & East Ill.		305	442	418	519	559
Chicago & N. W.	563	490	561	606	682	696
Chic. & St. Paul	489	594	440	438	330	413
Chic. St. P., Minn. & Om.		533	514	553	680	590
Cin., Ind., St. L. & Chic.	673	581	700	800	1,139	972
Cleve., Col. & Ind.	176	156	174	187	197	208
Cleve., Mt. V. & Del.	190	240	364	256	737	647
Denver & Rio G.				406	444	519
Det., Lansing & N.	247		255		252	287
E. Tenn., Va. & Ga.				283	378	433
Hannibal & St. Jo.	409	438	457	342	768	678
Hous. & Tex. Cen.			281	358	441	396
Ill. Cen. in Ill.	539	541	558	548	640	598
Ill. Cen. in Iowa	284	231	279	202	339	418
Ind., Bloom. & West.	247	258	305	418	488	395
Ind., Ohio Div.			236		368	378
Ind. & St. L.	158	174	179	187	211	313
Louisville & Nashville	306	414	380	431	454	446
Memphis & Charleston	192	182			235	308
Mem., Pad. & North.	113	135	131	133	151	178
Mo., Kan. & Tex.	285	322	280	329	417	481
Mobile & Ohio	170	184	190	218	258	250
Nash., Chat. & St. L.	374	378	323	382	334	322
N. Y. & New Eng.				688	746	765
Norfolk & Western	281	312	298	323	340	378
Northern Central	1,028	774	842	995	1,382	1,352
Northern Pacific				299	334	536
Paducah & E'town			145	148	172	210
Pennsylvania	1,800	1,096	1,478	1,622	1,843	1,964
Phila. & Reading	1,154	1,147	1,068	1,408	1,516	2,170
St. L., A. & T. H., Main line			384	494	708	583
St. L., Iron Mt. & So.	417	463	477	532	745	632
St. L. & San Fran.	270	297	296	347	361	391
St. P., Minn. & Man.				431	415	447
Scioto Valley			282	241	340	299
Texas & Pacific	362	402	319	367	429	426

In this list the numbers of roads which had larger July earnings than this year were 18 out of 44 in 1880, three out of 41 in 1879, three out of 36 in 1878, two out of 30 in 1877, and three out of 30 in 1876. There is thus an almost universal improvement this year over every previous year, except last, and by three-fifths of the roads over last year also.

For the seven months ending with July the table has reports from 53 railroads, with 37,657 miles of road. There is an increase of 17 per cent. in their mileage

over last year, and of 16½ per cent. in their earnings, the average earnings per mile of road having fallen from \$3,981 to \$3,962, or one-half of 1 per cent.

CRIMINAL ASPECT OF RAILROAD STRIKES.

There has been, in recent years, considerable legislation addressed to preventing the evils arising from strikes among railroad employes. Decisions of the courts upon the subject of strikes are few in number, and they are especially silent on railroad strikes. They appear, however, to indicate these general principles as being, on the whole, well-established, subject to some variations in particular states in view of peculiar language of local statutes.

1. It is not a crime, it may, of course, be a breach of contract, for employes, either separately or in numbers, to refuse to continue work.

2. But workmen who unite in any measures of violence or coercion for the purpose of preventing others from accepting and doing the work which they have declined, are punishable.

3. Likewise if employes who are about to stop work agree upon a particular time or manner of doing so which shall be especially injurious to employers, or inconvenient or dangerous to the public—as where all the engineers on a road agree to quit their engines at a given hour, leaving trips unfinished—this aggravation may render the strike criminal.

The general head of the law under which these matters come is that of "conspiracy." It is not a branch of railroad law particularly. The principles apply without much variation in all vocations in which workmen are employed in considerable numbers. One of the most difficult problems has been to adjust the rules in such manner as to recognize and protect the unquestionable right of the laboring classes, acting in a moderate and unvengeful way, to refuse to work when pay is reduced too low, while, at the same time, competing laborers are protected in their right to take the work at the reduced price, and employers and the public are guarded from any measures of coercion.

The new penal code for New York, which is understood to not be a novel system of law but a conservative statement of existing rules, and which is to take effect May 1, 1882, includes in its definition of criminal conspiracy the uniting in efforts "to prevent another from exercising a lawful trade or calling or doing any other lawful act by force, threats or intimidation," or by interfering, etc., with his tools, or more generally uniting in efforts "to commit any act injurious . . . to trade or commerce." But it also declares that "the orderly and peaceable assembling or co-operation of persons employed in any calling . . . for the purpose of obtaining an advance in the rate of wages," is not a conspiracy if unlawful means are not used. This code also declares it a misdemeanor for any employe of a railroad company to be guilty of any wilful violation or omission of duty by which human life or safety is endangered; and many of the more conspicuous violations or neglects, such as would naturally be involved in any extended attempt of employes to coerce the direction into raising wages, are specified and made subject to severer punishments. There is, moreover, a general provision for the punishment of any person who, with a view to compel another person to abstain from doing an act which he has a legal right to do, or to do one from which he has a right to refrain, uses any violence or intimidation, or hinders the use of tools, etc. In New York the railroad interest will, in the future, have the protection of distinct provisions like these.

Several of the states have recently enacted special laws. For example, Kansas, in 1879, enacted that any locomotive engineer who, in furtherance of any combination or agreement, wilfully and maliciously abandons his locomotive at any other point than its regular schedule destination; also any person who by act or intimidation, except by due process of law, obstructs the regular running of any engine or train, shall be punishable by fine and imprisonment. A Maine statute of 1880 prescribes fine and imprisonment for combinations to stop or delay trains or injure property of railroads, or the use of violence or intimidation in furtherance of any combination to injure the service of any railroad corporation, or refusal of employes to perform duty. In many cases, however, it will be found that the various acts just made punishable would be punishable under the general law of conspiracy. The special law is useful as making the punishment more distinct and certain, or, perhaps, as increasing it rather than as making a positive change. It does not follow that because the statute book of a state does not distinctly mention combinations of employes to coerce the management, that they are not punishable. The general law of conspiracy may cover them.

We have already said that a simple refusal of em-

ployés to continue in an employment is not a crime. Under modern American law every workman has a right to determine what branch of business he will pursue; to make contracts for service with whom he pleases and on the best terms he can, and to change from one occupation to another. Competition in business is lawful, and so is a refusal to work for any particular employer; and it is no crime for any number of persons to associate and agree that they will not work for certain employers or that they will not work under a certain price or without certain conditions. Such freedom of labor has not always existed. In colonial times there were many restrictions, but experience and increasing intelligence led to their being abolished. For a century past the general rule throughout the country has allowed the laboring classes to decide for themselves, freely, whether to work or not upon the terms employers were willing to offer, and in several instances "unions," or associations of workmen of a particular trade, have been sustained as lawful, where the members united in agreements that they would not work below a certain price or the like, provided they did not plan violence or threats to prevent workmen not members from accepting the work, or to coerce employers into paying the higher price desired.

But this liberty of employés to discontinue work does not extend to preventing other persons from taking their places. It does not imply a right in a dissatisfied person, either alone or in combination with others, to annoy or disturb, in any manner, those who may be willing to take the work which he has declined; and whenever the articles of agreement, or the methods of a trades-union, or, indeed, any combination, however informal, among workmen on a strike, involves the purpose of hindering, by force or threats, other hands from coming into the vacant places and carrying on the work, the members of the combination expose themselves to punishment under the general law of conspiracy.

A feature of strikes which is somewhat peculiarly applicable to railroads and has lately assumed importance, is that of concerted action among employés to quit work at an agreed time, thus throwing the whole business of the road into unmanageable derangement. Locomotive engineers, for example, have the right, so far as the criminal law is concerned, to decline further service. They have not the right to unite in any measures preventing other engineers from taking their places. Suppose nothing of the latter kind is attempted, but all the engineers in the employ of a company agree that at noon of a given day they will quit work wherever they may happen to be. The purpose of the device is to subject the company, the consignees of goods on the way and the traveling public to the extreme annoyance of having the entire operations of the road unexpectedly stopped. A dozen trains, perhaps, are, at the agreed moment, in depots, ready to run out, but they cannot start. A dozen more are abandoned half-way between stations; passengers are left to make their way backward or forward on foot, or must wait hours until the direction can send a substitute engineer. Can the strikers shelter themselves by the plea that it was no offense to quit work, and that they used no means to prevent successors from working? The answer is that they cannot rely on this defense. Such a mode of striking involves so great a disaster to a railroad that several of the states have seen fit to prohibit it explicitly; but without a distinct prohibition it would be punishable wherever the law of conspiracy is fully in force. The engineers would not be punished for the simple refusal to work, but the combination to time their refusal in such way as should be specially injurious to the business of the road and the public convenience would be a conspiracy. The principle is illustrated by a strike which occurred in Nebraska among journeymen tailors. A merchant tailor employed eighteen journeymen, and they made an arrangement that, instead of finishing the jobs they had in hand, they would all, at a preconcerted time, return the garments in hand unfinished, intending to injure their employer by damaging his business as much as possible. The court pronounced this a conspiracy. The reasons for such a rule would be far stronger in a case where the operations of a railroad were embraced. The malice involved in timing the refusal to work so as to do the utmost possible injury would turn what otherwise might be deemed an exercise of a right into an offense.

THE YEARLY CONSUMPTION OF RAILS.

We have for several years endeavored to establish as nearly as may be the yearly consumption of rails for maintenance in this country separately from that for renewals. The reports of production and importation are so complete that the total yearly consumption

can be ascertained nearly enough. And the mileage of new railroads constructed each year we have ascertained so fully that a very close estimate of the consumption of rails for these can be made. Thus the total consumption for maintenance is reached by subtracting from the total consumption the amount used for new road. But what is the most important to know is the percentage of rails renewed yearly, which enables us to ascertain the average life of rails, and how far it has been lengthened by the introduction of steel, which is now laid on nearly all tracks that have a heavy traffic. This may seem an easy enough task. We have only to divide the tons of rails laid on the old roads during the year by the total tons in them at the beginning of the year, and, knowing their mileage, we can estimate nearly enough the tons of rails in them. Unfortunately, though the total mileage of road in the United States is pretty well established, the total of track has been reported so differently from year to year that we cannot feel at all sure that any statement of it in any year is correct. The only statistics that have been collected for miles of sidings, second tracks, etc., have been in Poor's Manual, and these have changed exasperatingly from year to year. On Jan. 1, 1877, the Manual reported 18,360 miles of such tracks, in 1878 only 18,100; in 1879 the enormous increase of 4,717 miles of these tracks was reported, making 22,817 in all. These last figures we accepted as probably corrections of previous errors, companies being more likely to omit reporting such mileage than most other facts concerning their roads; but for 1880 the Manual reported only 20,041 miles of these tracks—a decrease of 2,776 miles in a year in which there was much more than the usual amount of construction of this kind, the companies being generally prosperous, and the traffic growing so fast as to require additional tracks for its accommodation. Now comes the issue of 1881, reporting 21,978 miles of accessory tracks. This indicates an increase of 1,937 miles during the year. This is a reasonable amount, and until we have further corrections we shall take this last statement as a basis and adjust our estimates of consumption for maintenance and new accessory tracks from it.

Assuming the figures of 1880 to be correct, then, there were in the United States at the beginning of that year 106,623 miles of railroad track, and, according to the best estimates we can make, the rails in these tracks weighed 10,384,370 tons of 2,000 lbs.—crediting 61½ tons to narrow gauge and 99 to other tracks per mile.

Now, the approximate consumption of rails in the United States in 1880 was 1,674,235 short tons, of which there were required for the new railroad on which track was laid that year about 688,250 tons, leaving 986,000 tons for the maintenance of the 10,384,370 tons in track at the beginning of the year, and the construction of accessory tracks to these old roads. Neglecting the latter, we have 9.5 tons of new rails laid during the year for every 100 tons in the tracks.

By the last Manual we have the construction of 1,937 miles of new accessory tracks credited to 1880, requiring doubtless 191,700 short tons of rails, so that in all we may charge 880,000 tons of the consumption to new construction, leaving 794,000 tons to be charged purely to the maintenance of the 10,384,000 tons that were in the tracks at the beginning of the year, or 7.65 tons per 100, and 7.45 short tons or 6.65 long tons per mile of railroad track.

This has been the only year in which we could venture to assume that the reported addition to accessory track was even approximately correct. For previous years we are compelled to lump the amount required for such tracks with that required for maintenance, which, basing all calculations on the mileage reported in the Manuals of 1880 and 1881, which makes the figures differ somewhat from those we have published heretofore, gives the consumption for construction of new roads, and for maintenance and additional tracks on old roads, as follows in successive years, in tons of 2,000 lbs.:

—Rail Consumption.—			Aggregate in tracks Jan. 1.
Construction.	Maintenance*.	Total.	
1872.....	740,500	790,350	1,530,850
1873.....	392,000	758,849	1,148,849
1874.....	192,000	645,995	837,995
1875.....	151,000	659,770	810,770
1876.....	231,000	648,916	879,916
1877.....	206,000	558,744	764,744
1878.....	390,000	522,700	882,695
1879.....	440,000	717,420	1,157,420
1880.....	688,000	986,235	1,674,235
1881.....			11,264,000

* Including new sidings and second tracks of old roads, which required, perhaps, 192,000 tons in 1880, but cannot be estimated for previous years.

With this consumption, the percentage of rails in old tracks required each year for maintenance and new accessory tracks has been:

Year.	Per cent.	Year.	Per cent.
1872.....	10.30	1877.....	5.95
1873.....	9.02	1878.....	5.54
1874.....	7.34	1879.....	7.22
1875.....	7.33	1880.....	9.50
1876.....	7.10		

The weak point in all these calculations, as we have

intimated, is the absence of statistics of new accessory tracks each year. The percentages are not percentages of renewals, which is what we most desire to know, but of renewals plus this peculiar new construction. Were they renewals, the last year would show an astonishing increase in the rate. It was a year in which there was an extraordinary amount of renewals, there is no doubt, a great many companies then being able to make them which had needed them before; but it was also a year of much more than the ordinary amount of construction of second tracks and sidings, for the same reason and also on account of the great growth of traffic on many roads. But allowing for 1,937 miles of such tracks, we have shown above that there remained a consumption equal to 7.65 per cent. of the rails in old tracks for maintenance alone, which is a larger consumption than in any previous year since 1873 for maintenance and new accessory tracks together, and consequently must be above the current average yearly wear. For though it is quite possible to put off needed renewals for one or two years, and, on roads of thin traffic where speed is not required, for a longer time, they cannot be postponed for any such length of time as is covered by the above tables, and for the last five years the actual consumption for maintenance must represent very accurately the actual wear of rails for that time. We cannot ascertain this exactly, but if we allow a consumption of 500,000 tons for second tracks and sidings in these five years (in the last of which 192,000 tons were used for these objects), we have a total consumption of 2,934,000 tons for maintenance, pure and simple, in five years, or an average of 587,000 tons yearly, and an average yearly renewal of almost exactly 6 per cent. (exactly, 6.06) of all the rails in tracks, indicating the extraordinary average life of 16½ years for all rails.

We have heretofore laid special stress on the average renewals as indicating the effect of the use of steel rails, and we have cautioned our readers that the astounding improvement shown—the increase of the apparent average life of rails from 9.7 years in 1872 to 16 years in 1878—could not be maintained and was largely deceptive, for the reason that the renewals had been chiefly of steel, and that the steel rails would need scarcely any renewals within the period covered by the statistics, and indeed since any large mileage had been laid with them in this country, but yet were none the less wearing out, and would have to be renewed in large quantities as the limits of their life were approached. Probably we have begun to feel this, though we do not hear that anywhere yet have there been very great renewals of steel rails. But a further element which exaggerated the apparent decrease in the percentage of yearly renewals was doubtless the varying consumption for accessory tracks, which must have been much greater in the first two or three years than afterwards until 1879 and 1880.

The renewals with steel continue, and at this date there are few tracks on which there is a heavy traffic which are of iron. Up to the end of 1880 about 4,475,000 short tons of steel rails had been laid on the railroads of the United States (1,074,000 tons in 1880 alone), and nearly 4,000,000 of these, we should say, are still in use, leaving at the beginning of this year but 7,270,000 tons of iron rails. By far the greater part of the tracks in this country have a light traffic, the roads of heaviest traffic, like the Pennsylvania, having twice as many miles in branches as in main lines, and the traffic on most branches being light. We should say that two-thirds or more of the traffic of the country now passes over steel rails, and the change of the other tracks from iron to steel will not cause anything like the decrease in yearly renewals that has been effected heretofore by using steel. Of the total consumption of rails only 6½ per cent. was steel in 1871 and 25 per cent. in 1873; but since 1876 more than half the annual consumption has been steel—in 1879, 62 per cent., and last year nearly 62 per cent., in spite of the enormous mileage of new railroads, for which iron is used much more than for renewals of old roads. Much of the new road under construction this year, however, will have steel rails; we are manufacturing much more steel than last year, Mr. Swank, in his admirable report to the American Iron and Steel Association, estimating a probable production of 1,250,000 short tons in 1881, and a capacity for 1,500,000 next year; while so far we have imported more steel than last year. The great demand for new roads may possibly increase the production and consumption of iron to the same extent, but probably not, as the increase in steel rail production this year will provide for about 3,000 miles of road. Thus we may expect a larger and larger proportion of our tracks to be laid with steel, with a

further decrease in the average percentage of renewals, to which interruptions may be expected when the time comes for extensive renewals of the older steel rails. The experience of the last five years, we have shown, indicates already an average life of 16½ years for our rails, while nearly two-thirds of them were iron, and this is more than most people have been willing to admit as the life of steel on a road of considerable traffic.

New Stocks and Bonds in 1881.

The new stocks and bonds issued in 1881 form the subject of an extended and very important investigation, the results of which appeared in the *Investors' Supplement* that accompanied the *Commercial and Financial Chronicle* of last week. The article has a table of stocks and bonds "issued or subscribed" from Jan. 1 to this date, and a formidable one it is—we are inclined to call it a frightful one. The total has a face value of \$870,930,100. If this represented an actual investment of capital to that amount during these eight months (with the three busiest months of railroad construction yet to come) we would need to put our houses in order for an approaching financial tornado. But not all the new stocks and bonds represent any capital, and a very large amount of the issues actually subscribed for do not represent a present investment, but are yet to be made. The capital is floating as yet, but there is a purpose to fix it in the near future. This makes a vast difference, for it is easy enough to subscribe in eight months the capital for works that could not be completed for eight years—take Panama canals, for instance.

The *Chronicle's* list of securities marketed and not properly of capital invested. But even under this aspect it is a formidable list. The totals are as follows:

	Mortgage bonds.	Income bonds.	Stock.
For construction of new roads.....	\$221,188,000	\$25,759,200	\$143,370,000
For improvements, purchase of other roads, or on consolidation.....	75,160,000	21,500,000	147,015,200
Without valuable consideration.....	4,225,000		32,708,700
Total.....	\$290,352,000	\$51,484,200	\$323,093,900

The issues for purchase or on consolidation are only the excess over the issues whose place they take. The amount of money called for by these securities the *Chronicle* estimates to be \$389,877,200, \$234,688,000 of it being for new roads, and the balance for the purchase of old roads and for improvements.

When we consider that the entire amount of the stocks and bonds of the 93,670 miles of railroad in the United States at the beginning of this year was but \$4,946,000,000, and that more than half of this was stock worth on the average much less than par, we may judge what a vast disturbance of capital is meant by a call in eight months for \$390,000,000 in cash, to be taken from floating capital, where it supports workmen and active enterprises of different kinds—farmers and factories and the like—and locking it up in earth-works, masonry, rails and rolling-stock. We do not believe it would be possible to do this in eight months, and we are sure it has not been done. It would represent probably 15,000 miles of railroad of the present average cost of new lines (which are always unfinished). We have laid track on about 3,700 miles so far this year, and though there has been an enormous amount of costly work done on lines on which track is not yet laid, this is not so very much greater than the work of a similar kind completed at the close of last year on which track has been laid this year. We are, however, building railroads altogether too fast, and have made engagements—as witness these vast subscriptions of capital—for building too fast for two or three years to come. These engagements we cannot fulfill without disaster, and we cannot leave them unfulfilled without disaster. The preparations now making, we should say, contemplate the building of 10,000 miles of railroad a year for three years—which would be a disaster to the world as well as a national disaster. We have already completed about a quarter more than last year, though last year the winter and spring were extraordinarily favorable to construction, and this year in most parts of the country little could be done till May. We shall, if nothing happens, complete something like 10,000 miles this year; and if it is still easy to get money, a larger mileage will be built next year. A financial stringency sufficient to put a check to this waste—for it is waste—will be worth much more than it costs; but there are no signs of it at present.

Pennsylvania Railroad July Earnings.

The report of earnings and expenses of the Pennsylvania Railroad in July we have looked for with much interest, because of the light it would throw on the effect of the rail road war. It is very interesting, but we fear it does not throw much light on that subject. Compared with the previous year, all lines east of Pittsburgh and Erie show an in-

crease of 9.6 per cent. in gross and 14½ per cent. in net earnings, and of less than 7 per cent. in working expenses, which latter, however, were extraordinarily large last year in July.

The earnings, expenses and net earnings in July for nine successive years have been:

Year.	Gross earnings.	Expenses.	Net earnings.
1873.....	\$3,203,462	\$2,251,913	\$951,549
1874.....	3,181,785	1,961,100	1,220,625
1875.....	3,073,103	1,913,126	1,159,977
1876.....	2,921,284	1,857,589	1,063,695
1877.....	1,880,337	1,400,976	479,361
1878.....	2,536,733	1,483,070	1,053,663
1879.....	2,782,906	1,783,201	999,705
1880.....	3,449,644	2,147,139	1,302,505
1881.....	3,780,418	2,289,447	1,490,971

The increase of 9.6 per cent. in gross and of 14.5 per cent. in net earnings this year over last gives a most inadequate idea of the great prosperity of the road. Compared with 1879 (and there was a heavy through freight traffic then and nearly as many miles of road as now) there has been an increase of 36 per cent. in gross and 49 per cent. in net earnings. The profits are even 40 per cent. more than in the Centennial year, when this road had an enormous passenger traffic (though not nearly so much in July as in the four months following). And the very large increase in expenses (nearly 30 per cent. more than in 1879) indicates that the company is more than maintaining its road.

That there should have been any gain in gross earnings, not to say in net earnings, during this month of railroad war, throughout which east-bound through freight, and during two-thirds of it west-bound through passengers, were carried at cost and less, seems marvelous, and would be but for the fact that this road's local traffic is overwhelmingly great now, when the coal and iron and other manufacturing industries of the country which it serves are active without precedent; and they require an amount of transportation unequalled in any other part of the country, materials and products alike being very heavy.

What the course of earnings has been from month to month may be seen below, in which they are given for the last two years:

	1881.	1880.	Increase.
January.....	\$3,189,215	\$3,083,551	\$105,664
February.....	3,495,594	2,944,578	151,018
March.....	3,844,304	3,278,186	566,118
April.....	3,760,372	3,488,366	272,006
May.....	3,856,897	3,417,916	438,981
June.....	3,807,436	3,221,475	585,961
July.....	3,780,418	3,449,644	330,774

The earnings in July have been slightly exceeded in each of the four months next previous, and, we may add, in October of last year, but in no other months in a record which extends back to 1872 except in September and October of the Centennial year and September of 1873, when through rates were very much higher than in any recent year.

We see, however, that the increase over the previous year's earnings was not so large in July as in May and June; and of course there can be no question but that earnings would have been much larger had through rates been maintained. This company, however, evidently is able to take any amount of such punishment as it received in July. Its 8 per cent. dividend will not be endangered in the slightest so long as other traffic remains as good as it has been, unless there are very large losses on the Western leased lines; the statement does show some loss on these compared with last year, but not equal to the increase on the other roads.

For the seven months ending with July the earnings and expenses of the road have been, for five years:

Year.	Gross earnings.	Expenses.	Net earnings.
1877.....	\$16,216,733	\$11,007,953	\$5,208,780
1878.....	16,988,671	10,591,710	6,396,961
1879.....	18,196,964	11,351,034	6,845,930
1880.....	22,883,715	13,486,804	9,396,911
1881.....	25,334,257	14,846,132	10,488,125

The increase this year over last is 10.7 per cent. in gross earnings, 10.1 per cent. in working expenses, and 11.6 per cent. in net earnings. The amount of increase in net earnings is about equal to 1½ per cent. on the capital stock, which is still further increased by the larger profits on the leased lines west of Pittsburgh and Erie, amounting to \$146,380, which makes the total increase of profits of the Pennsylvania Railroad Company for the seven months \$1,237,591, which is about 1.8 per cent. on the capital stock as it stood before the issue on account of the Philadelphia, Wilmington & Baltimore road, and to more than 1½ per cent. on the stock as it now stands.

While the lines east of Pittsburgh and Erie show this great strength, the leased lines west of those places have not done so well as last year. The gross earnings and expenses of these are not reported, but only the excess of net earnings over rentals and liabilities—that is, substantially the profit on the leases only is reported. This surplus over liabilities at the end of July amounted to \$1,804,210, and was \$146,380 more than last year; but at the end of June it was \$284,676 more than last year, and at the end of May, \$387,953 more. In the early part of the year these western lines suffered like other roads from the severe weather, increasing expenses where it did not decrease earnings, and as late as the end of March their profits were \$80,192 less than last year—an infinitesimal sum, considering the enormous system of roads. In April, a gain in profits over last year, amounting to \$296,885 was made; in May a further gain of \$173,260, followed in June by a loss of \$103,277 and in July by the further loss of \$138,296, which is about \$50,000 less than the gain on the eastern lines. The western lines suffer most proportionately from the railroad war, because a larger proportion of their traffic is carried at through rates. If they should continue to lose at the same rate as in July, they would still have a surplus of over \$1,100,000 this year. It is not at all improbable, however, that they may lose at a greater rate, not only because the

rates on passengers and west-bound freight have been very low all the time since July, and were so only part of the time in July; but also because these lines are in just that country which had magnificent crops last year and has light ones this year, and this is something which the cessation of the railroad war will not remedy. But with the company now more than a million dollars ahead of last year in net earnings, and increasing them even in July, while last year it had profits enough for a 10 per cent. dividend, its position seems to be very satisfactory indeed.

The Dirty Locomotive.

The appearance of locomotives as regards cleanliness and the brightness of their burnished parts, together with the simplicity or the "bravery" of their ornamentation, affords the traveler quite a field for small observations on railroad management. Accustomed to think of order and cleanliness as of the nearest kin, the traveler is suspicious of the dirty condition of many of the freight engines, especially on the trunk lines, and is ready to infer bad and careless management as characteristic of the whole motive department of the road. On careful inquiry, however, he will find that the accumulation of dirt on freight engines has arisen from several diverse causes. There may be a few locomotives which are dirty from mere reckless neglect, there are many more which are neglected because of an overburden of traffic on a limited motive power; and there is not a little economical neglect of dirt and rust, a sort of principled recklessness, based either on an expensive experience of over-care, or on a great scarcity of dollars and cents.

In all cases of dirty locomotives, however, neglect is to be predicated, from whatever cause it arises. The road says in very plain terms to its men: "Let the machines take care of themselves; it is not worth while keeping the property in its best condition." The dirty engine introduces into the affairs of the road a new principle, and it violates one of the oldest and strongest associations in the human mind, namely, the kinship of order and carefulness with cleanliness. It is evident, therefore, that as an economical question, the dirty locomotive involves more items than the small wages of a few wipers.

There is, however, another aspect in which the dirty locomotive may be considered. It is a moving evidence of the difficulty with which the human mind discriminates. The freight locomotive of to-day is dirty because its predecessor required so much care. The railroad mind has swung one full length of the pendulum, and already there are signs that it is about to stop and return to a more reasonable care of its motive power. In the West there has never been quite so much neglect in this respect as may now be found on several roads in the East. The new Western freight engine of the best type sheds brass bands and all ornamentation and appears in a simple business suit of plain black. It is at once tasteful and restful to the eye, and easy to be kept in orderly tidiness. Nevertheless it is not a universal favorite, and there are those, not however connected with the department of motive power, who would have the stripes and the bravery of their old-time favorites. No doubt this glistening bravery of brass and paint still serves a purpose in impressing the waiting public at the passenger station, watching with eager interest the approaching or departing train. The dirty passenger locomotive would certainly be a very poor stroke of economy.

In fact, it is a question whether the dirty locomotive pays anywhere or at any time—because it is dirty.

Every speck of more than needful dirt and dinginess costs the road somewhat that money cannot always, nor often, buy. Cheap and rapid transportation has changed many things, but among these, not human nature nor its old-time staple motives and close associations. Cheap transportation has not destroyed the connection between dirt and carelessness, nor between cleanliness and order, nor has it replaced the ideal element in human nature by any other. Men still need an outward expression of their inward ideal feeling toward their work.

The Gas Apparatus on the Reading Railroad.

In a description of the Foster Gas Apparatus, published in our issue of July 29, the statement was made that "These gas works have been in use on the Philadelphia & Reading Railroad since 1874, with great satisfaction, as stated in their annual reports for 1875 and 1876."

Our attention having been called to this statement, and its truth questioned, we addressed an inquiry for the facts in the case to Mr. J. E. Wooten, General Manager of the Philadelphia & Reading Railroad. To this Mr. Wooten replies as follows:

"To this I beg leave to say in reply, that the gas works referred to in the annual reports of the Philadelphia & Reading Railroad Company for 1875 and 1876 were constructed by the company in accordance with designs and suggestions furnished by Dr. Charles M. Cresson, who was for many years Engineer of the Philadelphia Gas Works. Dr. Cresson also supervised the work of construction and arrangement of the compressing machinery, as well as the methods of properly utilizing the product of the petroleum gas works when condensed to the usual delivery pressure of 230 lbs. per square inch in the storage cylinders for transmission to the receivers attached to the passenger cars.

"The pressure of the gas delivered at the burner tips is governed by means of an instrument devised and patented by Mr. A. Philippi, July 30, 1860, since which date all the passenger cars of the Reading Company have been lighted with gas in substantially the same manner as now."

Locomotive Parallel Rod.

Mr. John Cooke, President of the Danforth Locomotive Works, writes to us as follows concerning the locomotive parallel rod illustrated last week, on page 463:

"The plan of parallel rod illustrated in this week's Gazette was extensively used on the New York & Erie Railroad as early as 1853. We and other locomotive builders made a great many locomotives about that date for said road to specifications made by Harvey Rice, Master Mechanic. The parallel rods were made with brasses, keys, wedges, screws, etc., exactly as described in the Gazette."

The rod, as stated last week, is in use by Mr. Lauder on the Northern (New Hampshire) road, but we do not understand that Mr. Lauder claimed any originality in its design. He simply presented a drawing of it to the convention as a plan of parallel rod now in actual use, which was likely to stand the severe strain incident to the running of locomotives at very high speed. He made no claim to anything new or original about it, giving it only as an example of his practice.

"There is nothing new under the sun," and about a locomotive especially it seems hardly possible to illustrate anything that has not been in use before.

Record of New Railroad Construction.

This number of the Railroad Gazette contains information of the laying of track on new railroads as follows:

Augusta & Knoxville.—Extended from Walton's Island, Ga., north by west to Meriwether, S. C., 14 miles. Gauge, 5 ft.

International & Great Northern.—Extended west by south to the Nueces River, Tex., 27 miles.

Atlantic & Pacific.—Extended from Navajo Springs, Arizona, west to Winslow, 72 miles.

Connotton Valley.—Extended from Bedford, O., north-west to Newburg, 6 miles. Gauge, 3 ft.

Toledo, Cincinnati & St. Louis.—Extended from Frankfort, Ind., west by south to Linden, 23 miles. Gauge, 3 ft.

Texas & Pacific.—The Rio Grande Division is extended westward to the Pecos River, 35 miles.

Herkimer, Newport & Poland.—Extended from North Herkimer, N. Y., northward to Middleville, 6 miles. Gauge, 3 ft.

St. Paul, Minneapolis & Manitoba.—The Red River & Northern Branch is extended from Durbin, Dak., northwest 24 miles.

New York, Lake Erie & Western.—Track is laid on the Bergen County Short Line from Rutherford, N. J., north to the Midland crossing, 5 miles.

Richmond & Allegheny.—Extended from Lynchburg, Va., westward to Holcomb's Rock, 12 miles, and from North River, Va., eastward to Big Island, 10 miles.

Elizabeth City & Norfolk.—Extended from Elizabeth City, N. C., southward 5 miles.

Michigan Central.—Track has been laid on the extension of the Mackinaw Division from Gaylord, Mich., north to Indian River, 15 miles.

Louisville, New Albany & Chicago.—Extended from Lowell northwest to Dalton, Ill., 6 miles.

This is a total of 260 miles of new railroad, making 3,719 miles this year, against 2,950 miles reported at the corresponding time in 1880, 1,599 miles in 1879, 1,123 miles in 1878, 1,108 miles in 1877, 1,388 miles in 1876, 678 miles in 1875, 984 miles in 1874, 2,408 miles in 1873 and 4,264 miles in 1872.

THE PACIFIC RAILROAD THROUGH PASSENGER TRAFFIC does not grow, in which, indeed, it closely resembles passenger traffic on most railroads; but the Pacific railroads being wholly in new country, and having had no rivals for the through business, probably most people suppose they have a rapidly growing through travel. It did grow pretty rapidly from the time of opening until 1877, but it fell off rapidly afterward for three years, and now for three years has been nearly stationary. The number of through passengers in each direction each year (ending April 30) from the opening until last spring have been as follows:

	West.	East.	Total.	Excess West.
1869-70.....	26,600	18,100	44,700	8,500
1870-71.....	30,600	24,300	54,900	6,300
1871-72.....	28,700	20,700	49,400	8,000
1872-73.....	38,100	22,800	60,900	15,300
1873-74.....	52,900	26,100	79,000	26,800
1874-75.....	63,300	25,700	89,000	37,600
1875-76.....	70,300	32,800	103,100	37,500
1876-77.....	61,400	37,000	98,400	34,400
1877-78.....	42,500	29,800	72,300	12,700
1878-79.....	37,700	25,100	62,800	12,600
1879-80.....	34,700	24,700	59,400	10,000
1880-81.....	34,300	20,000	54,300	5,300

It is noticeable the emigration to the Pacific Coast became heavy when times were very hard here, and fell off as times improved, until last year the number of passengers who went west and did not return was smaller than any other year since the road was opened. In the aggregate 521,100 passengers have gone west over these roads and 316,100 have come east, leaving a balance of 205,000 as the immigration of twelve years; no less than 136,300, or more than two-thirds, are credited to the four years beginning May 1, 1873, and ending May 1, 1877. The average number of through passengers yearly both ways since the roads were opened has been 69,767, which is more than in any of the last three years, and is equivalent to a train of 113½ passengers—two full car-loads—each way every week day. This is doubtless a source of considerable profit, though a very large part of the through passengers are carried at second-class or emigrant rates; but with a new southern route just opened, a new northern route making rapid progress, and a fourth intermediate route well across Arizona, it would seem that this through

travel is likely to be cut up pretty fine, for one that shows no signs of growing. If it were shared equally by four trans-continental roads they would have but 28½, or half a car-load, each daily, and even if they were all first-class passengers, paying \$100 apiece, they would give each road a gross income of but \$1,550,000, or less than \$775 per mile, from this source. But the receipts per passenger at present, with no rail competition, are much less than \$100. In 1879, the average receipt per through passenger on the Central Pacific, over about 900 miles, was \$28.20, or at the rate of \$61.50, instead of \$100, from Omaha to San Francisco, and on this basis four Pacific railroads, with the traffic equally divided among them, would make but \$961,000 each, or about \$480 per mile, from the through travel. All of which is but further evidence that the new Pacific railroads will have to depend chiefly on their local traffic.

CHICAGO RAIL SHIPMENTS EASTWARD for the week ending Aug. 27 were reported by the Board of Trade as 53,473 tons, against 50,262 tons the previous week, when the actual shipments were 58,226 tons. This indicates actual shipments last week of about 61,500 tons, which is more than for many weeks previous, and exceeded only three times since navigation opened this year, only six times in the whole of this year, and in only five weeks of the whole year 1880, namely, four weeks in March and one in June. The increase naturally followed the advance in lake rates, and probably was further stimulated by a reduction in the average rail rates, as the Chicago papers report that it is believed that large contracts have been made for carrying flour at 10 cents per 100 lbs., instead of 15. It does not seem possible that grain can have been taken at this rate, as it is considerably less than the lake and canal rate, and such a rail rate would at least prevent the advance there has been both on the lakes and the canal.

The actual weekly rail shipments from Chicago since the railroad war began, and the average weekly shipments from the opening of navigation till the beginning of the war have been:

	1881.	1880.
Av. May 1 to June 18.....	41,529	36,854
Week to		
June 25.....	81,000	55,394
July 2.....	67,973	46,965
" 9.....	56,167	34,223
" 16.....	62,683	34,580
" 23.....	54,211	33,373
" 30.....	59,370	34,371
Aug. 6.....	54,600	42,787
" 13.....	56,291	36,646
" 20.....	58,226	36,341
" 27.....	61,500	40,861
Total since June 18.....	612,726	397,480

*Estimated.

Thus during the ten weeks that the railroad war has lasted the Chicago shipments eastward by rail have been 215,246 tons, or 57 per cent., more than last year. The average rate received on these shipments, however, was nearly one-half less this year, so that the gross earnings from it have been considerably smaller this year.

The Board of Trade report for the last week makes flour 8,438 tons of the total of 53,473, and grain 35,384 tons—the latter an extraordinary amount. It credits 13.7 per cent. of the shipments to the Grand Trunk, 20.6 to the Michigan Central, 25.7 to the Lake Shore, 21.3 to the Fort Wayne, 10 to the Pan-handle, and 8.7 per cent. to the Baltimore & Ohio. This is a smaller percentage to the Pan-handle and a larger one to the Baltimore & Ohio than usual of late, though Pan-handle the week before had even a smaller percentage of the total shipments. But these reported percentages sometimes vary greatly from the actual ones.

WATER RATES have suffered considerable changes during the past week (ending Wednesday last). Lake rates advanced from 2½ cents per bushel for corn from Chicago to Buffalo on Thursday of last week to 4 cents by Tuesday of this week, which is a striking contrast to the rate of 1½ cents that ruled for some time, and is the more notable because it is made while rail rates not only have not been advanced, but, it is said, have been reduced from 10 to 15 cents per 100 lbs. on large shipments, which is only 5.6 cents per bushel on corn to New York. The rate on coal from Buffalo to Chicago has been \$1.20 a ton for a week past. This is at least three times the ordinary rate at this time of the year, but less than was paid the previous week.

Canal rates, which had stood unchanged at 3½ cents a bushel for corn and 4 for wheat from Buffalo to New York since July, advanced half a cent per bushel last Monday and another half cent Tuesday, thus reaching 4½ cents for corn and 5 for wheat, which will probably call out the boats that have been tied up during the summer.

It would appear, then, that now it costs about 8½ cents a bushel to ship a bushel of corn from Chicago to New York by lake and canal, while the 15-cent rail rate takes it there for 8.4 cents, and the 10-cent rate, of which much was said last week, for 5.6 cents. The inevitable conclusion is that very few shippers have been fortunate enough to get a 10-cent rate on grain. But it is quite probable that at this time shippers prefer slow to fast transportation. Speculation has made the prices of grain at Chicago disproportionately high, and there is no pressing demand from consumers for it. And inevitably at this season the largest part of the grain must be stored somewhere. Storage in elevators costs money, and shipments by lake and canal are provided with storage in the vessels for about four weeks, while rail grain goes through in a week.

Ocean rates have fallen a little, and are now quoted at about 4d. a bushel by steam from New York to Liverpool. There is not much pressure to ship at current prices, and this keeps rates down. But there will be this year a large diversion of tonnage from our Atlantic ports, in the first

place to Russia, which again has large quantities of grain to ship from Black Sea ports (having had scarcely any last year), and also to San Francisco, which not only has some 20,000,000 bushels of this year's wheat to export, but also fully 20,000,000 left over from last year's crop. The rates from San Francisco to Liverpool are now extraordinarily high (75s. to 80s. per ton, or 48 to 51 cents a bushel), and one might expect them to attract a very large portion of the sailing vessels that can conveniently undertake the long voyage around Cape Horn. Steamers do not enter this trade.

RAIL IMPORTS appear to have fallen off a little. The exports from Great Britain to the United States were 26,824 tons in July, against 31,698 in June, 39,844 in May, and 38,402 tons in April. For the seven months ending with July, however, there was a large increase (16½ per cent.) over last year. For this period in 1879 the British exports to this country would have sufficed to lay nearly 102 miles of track, weighing 56 lbs. per yard; in 1880 they were enough for 1,607 miles; this year, for 2,098 miles. The change since 1879 is marvelous, the more so because it has been accompanied by an enormous increase in domestic production, so that the imports this year are probably not more than one-sixth of the consumption. We have taken this year 44½ per cent. of the total British exports; which but for our increased demand would have been nearly 10,000 tons less than last year, instead of 33,500 tons more. British North America has taken nearly one-third as much as the United States; the exports to Mexico are not reported separately, but they must have been considerable, and we may assume that North America has this year taken about five-eighths of all the British exports. The next customer in importance is British North America, which has taken more than in previous years and about one-ninth of the whole. The United States and British possessions have taken 318,001 tons out of the 415,426 of total export—7 per cent. It is noticeable that we are about the only nation left that imports iron rails. Out of 82,929 tons exported in the seven months this year we took 71,813—seven-eighths. Ten-elevenths of the exports to British India were steel and twenty-nine thirtieths of the exports to British North America. And the iron exports, except to this country, decrease from year to year. They were 24,170 tons last year, against 11,126 this.

The British exports to European countries have also become very light; during the first seven months of the year these were 54,516 tons in 1879, but they fell to 20,389 in 1880 and to 34,113 in 1881—in the last two years not more than might be required for the renewals of a single company's lines, and which would be more than provided for by a production of 100 tons a day.

TRUNK LINES SHIPMENTS WESTWARD have increased immensely since the great reduction in west-bound rates which went into effect Aug. 6, but had been applied probably to most of that traffic for a week or more before. Not all the increase may be attributed to the reduced rates, however; July is always a month of less than the average shipments, while August has usually much more than the average. So far the August shipments from New York are reported to have been about one-fourth more than last year, and probably the largest ever made in a single month; but last year the increase was even more surprising, August shipments then being about 35 per cent. more than in 1879. Previous months of this year have shown some increase in New York shipments over last year, but not nearly so great as in August. The gain over July this year is about 60 per cent., and there can be no doubt that shipments have been stimulated by the reduced rates, and also by the low passenger fares. Merchants have come in and made their purchases earlier than usual in order to take advantage of the low freights and fares, which they know will be advanced some time and may be at an early day. Thus the enormous August trade is largely an anticipation of the fall trade, and if the present low rates shall continue throughout the rest of the year, we shall not expect the increase in shipments westward over last year's to be much larger from Aug. 1 to Dec. 31, than they were in the first half of this year, except in a few items taken from the canal boats, like sugar and some iron manufactures. The whole west-bound traffic since 1879 has been very much larger than before, reflecting the increased prosperity and purchasing power of the country.

THE CANADIAN CENSUS shows for the whole Dominion a population of 4,352,680 this year, which is an increase of 665,484, or 18 per cent., since 1871; while the increase in the United States from 1870 to 1880 was 30 per cent. Nevertheless, the increase in Canada was decidedly rapid. We must remember that there is no new rapidly growing West in the Dominion, as there is in this country—no colony which did or could grow as Iowa, Minnesota, Kansas, Nebraska and Texas grew from 1870 to 1880. Much has been said of the Canadian Northwest and of its capacity for wheat production and the support of a great population; but whatever its capacity, it has not yet attracted settlers to any extent; and, indeed, until within a year or two has been comparatively inaccessible. The old province of Manitoba, of which so much has been said, had a total population this year of only 49,509, against 12,728 ten years ago. But nearly all the Canadian provinces are comparable rather with our Eastern and Middle states than with the country as a whole; now these two groups of states increased only just about 18 per cent. from 1870 to 1880, and even Ohio, Indiana and Illinois not much more—about 20 per cent. There is thus really not much difference between the rate of growth in Canada and that in those of

our states which are similarly situated. Canada, however, is comparatively an unimportant country. The total population of the Dominion from Prince Edward Island to the Pacific is nearly the same as that of the single state of Pennsylvania, and 700,000 less than that of the state of New York, and the increase alone of our population from 1870 to 1880 was nearly three times as great as the total population of Canada this year.

THE RESTORATION OF CANAL TOLLS on sundry articles, chiefly west-bound freight and salt, from which the tolls were removed entirely this year, has been considered by the New York Canal Board. These articles, however, form but a very small part of the canal tonnage, with the exception of salt, and if tolls were paid on the whole it would have comparatively little effect on the canal receipts. The reason given for re-imposing them was that the revenue of the canal is in danger of falling below the amount required for its maintenance the next year. But the committee of the Canal Board appointed to consider the subject say that there is no danger of this. The canal year begins Sept. 1, and of course it is impossible to guess what the income of the coming year will be while that of the past year, to the amount of which expenditures on the canal the next year are limited by law, is already beyond change. Down to Aug. 22 it amounted to \$777,000—a great decrease truly from the \$1,126,000 earned in the previous canal year; but the committee say that "while the amount will not be sufficient to do all that is desired, or all that has been recommended by the Engineer Department, there exists no doubt in the mind of your committee that the amount will be sufficient to secure as good navigation as there has ever been, unless some great disaster occurs."

BUFFALO GRAIN SHIPMENTS have been as follows, the first line giving the average weekly shipments from Buffalo by canal and by rail this year from the opening, for the six weeks, until the 15-cent rail rate was made; the second the average for the ten weeks since that time, and the third the actual shipments for the week ending Aug. 26:

	By canal.	By rail.	P. c. by rail.
Av. to June 17.....	1,673,685	1,159,400	41.0
Av. since June 17.....	1,009,471	1,919,725	62.0
Week ending Aug. 26.....	1,010,750	1,301,250	56.3

In the last week, it will be seen, the canal shipments are but slightly below the average since June 17, while the rail shipments were one-third below their average. Last year the average shipments before and after the same date of June 17, and for the whole time after the opening till Aug. 26 were (a 30-cent rail rate being pretty well maintained all the time):

	By canal.	By rail.	P. c. by rail.
Av. to June 17.....	2,677,689	1,280,289	32.4
Av. after June 17.....	2,265,318	1,687,018	42.7
Average of season.....	2,321,707	1,503,253	39.4
Season av., 1881.....	1,227,604	1,658,574	41.0

We see that the railroads after all have only an insignificantly larger proportion of the whole Buffalo shipments this year than last, though this is largely due to other causes than the railroad war, for last year more of the grain to be marketed was where it could not conveniently be shipped by canal—too far south.

THE METROPOLITAN ELEVATED RAILWAY is reported to have earned \$2,067,362 during the 9½ months from Oct. 1 to July 14, or at the rate of \$2,600,000 a year. The earnings of the two elevated railroads during the previous year were \$4,613,000, and the Metropolitan has 56 per cent. of the road, but not so productive road on the average as the New York Elevated. The expenses are reported at the rate of \$1,694,000 a year, against \$2,644,000 for both roads last year. The expenses were 57½ per cent. of the earnings of both roads last year, and 65 per cent. of the Metropolitan's earnings during the 9½ months of this year. The figures indicate for the whole system a considerable increase of gross earnings over last year, and no decrease in net earnings. But interest had to be paid all this year on the cost of the unproductive Second avenue line; and the \$567,485 of net earnings during the 9½ months were \$18,830 less than the interest on bonds that accrued meanwhile; and at the same time the tax-gatherer is pressing his bill for a few hundred thousand dollars.

The New York Elevated has doubtless done much better, having less unproductive road. But it is further to its advantage that its yearly interest charge is \$595,000, against \$740,000 on the Metropolitan. And, having a heavier traffic, its percentage of expenses is probably considerably less.

AGED RAILROAD DIRECTORS abound in England, which is not surprising, perhaps, in view of the fact that it is usually to large owners of railroad property that their direction is intrusted, that to be a large owner one must have great wealth, and that in Great Britain more than here the owners of great wealth (except in the aristocracy) are mostly beyond middle age. During the present year four of the directors of the Northeastern Railway Company have died, and their united ages amounted to 322 years. The youngest, Mr. Henry Pease, was 75; Mr. John Fogg-Elliott was 78; Mr. Joseph Laycock, 82; Mr. W. R. Hunter, 87. We should doubt the policy of giving the management of so new and changing a business to men so old. To keep up with the progress of the art there has to be a continuous series of reformations in the working of railroads, and, though there are exceptions very old men are apt to have fixed ideals, and having attained them, are impatient of innovations. There are some notable exceptions, however. One of the oldest engineers in America is more inclined to change everything than to keep things as they are; but probably the engineer's occupation, which has had (in railroad matters) to deal with improvements every year, tends less than most others to make men extremely conservative.

THE PASSENGER WAR remains unchanged, with the exception that the rate from Boston has been reduced to a level with that from New York, instead of being a dollar higher—that is, all the roads except the Grand Trunk sell tickets from Boston to Chicago for \$7, as they do from New York to Chicago. The Grand Trunk continues selling tickets in both directions between Boston and Chicago for \$5. The Chicago papers last week reported average daily sales of about 200 tickets to Boston by this route, the other roads charging \$16 and expressing themselves satisfied with their traffic, and saying that it is even larger than before the Grand Trunk entered the field with its \$5-rate. There is heavy travel now, but not a particle of profit in it, and it is sure to be followed by a much lighter travel, for people are now anticipating journeys that they had intended to make in the fall or even next year. It's an ill wind that blows nobody good, however, and the sleeping car companies are reaping an enormous harvest out of the railroad war, and cannot begin to supply cars enough to meet the demand.

THE CHICAGO LUMBER SALES for the first seven months of the year, as shown by statistics collected by the Lumbermen's Exchange, giving stocks at the beginning and end of this period and the receipts during it, amounted to 1,327,246, 673 ft. this year, which is 194,267,614 ft., or 17½ per cent., more than last year, when the business was larger than ever before. These are much more accurate statistics than those shown by the reported shipments, and they indicate the prosperity of the Northwest unmistakably. During July the increase in sales was 26 per cent., which shows that down to that time the prospects for lighter crops had not diminished building; though of course the demand then must have been chiefly for work previously planned and largely begun.

THE ENLARGED WELLAND CANAL has made no figure in the commerce of this season as yet. It was to be opened July 1, but it was found that the mechanism designed for working the lock gates was inadequate. Recently it was expected that the opening would be Sept. 1, but no announcement of such opening has been made yet. There is time enough yet this year to test the improvement, which, however, will not be complete this year, extra care being required in some of the locks, and the full depth not being available. If effective at all, it will probably be felt first by the boatmen on the Erie Canal, who have been having a very unprofitable season, but this week have secured a little advance.

General Railroad News.

MEETINGS AND ANNOUNCEMENTS.

Meetings.

Meetings will be held as follows:
Columbus, Hocking Valley & Toledo, annual meeting, in Columbus, O., Sept. 10.
Indiana, Bloomington & Western, annual meeting, in Indianapolis, Ind., Sept. 7.

Railroad Conventions.

The International Road-Masters' Association will hold its annual convention in Cincinnati on the second Wednesday in September (Sept. 14) next.

The National Association of General Passenger & Ticket Agents will meet in St. Louis, Sept. 20.

The Master Car-Painters' Association will hold its annual convention in New York City Sept. 21, beginning at 10 A. M.

The Association of American Railroad Superintendents will meet at the Windsor Hotel, New York, Sept. 21, at 11 A. M.

The Order of Railway Conductors will hold its fourteenth annual convention in Buffalo, N. Y., Oct. 4.

The Railroad Commissioners' Convention has been called to hold the fourth annual meeting in Atlanta, Ga., Oct. 11.

Dividends.

Dividends have been declared as follows:
Union Pacific, 1½ per cent., quarterly, payable Oct. 1. Transfer books close Aug. 31.
Chicago, St. Paul, Minneapolis & Omaha, 1½ per cent., quarterly.

Foreclosure Sales.

The Pennsylvania Petroleum road was to be sold at public sale at Titusville, Pa., Aug. 31. The road was nearly all graded from Cambridge, Pa., to Erie, several years ago, but no track has been laid. It was intended to be a branch of the Atlantic & Great Western.

Association of American Railroad Superintendents.

Maj. E. T. D. Myers, Secretary, has issued the following notice:

The second meeting of the Association of American Railroad Superintendents will be held at the Windsor Hotel, New York City, on Wednesday, Sept. 21, 1881, at 11 o'clock A. M.

Business to come before the meeting:
1. The adoption of a constitution and by-laws.
2. The election of officers for the ensuing year.
3. The consideration of such other business as may be presented.

A full attendance is respectfully requested.

International Road-Masters' Association.

The following circular has been issued by Mr. W. H. Canniff, Secretary of this Association:

The third annual convention of the International Road-Masters' Association will meet at the Gibson House, Cincinnati, Wednesday, Sept. 14, 1881.

Meeting will be called to order at 1.30 p. m. All road-masters and assistant road-masters are invited to attend.

Mr. Isaac Burnett, President of the Association, will deliver the address.

The following questions will be brought up for discussion, in which all road-masters are invited to take part:

1. Best form of nut locks, with specimens.
2. Best manner of ballasting with rock, whether to use crusher or break with hammers; saving in cost of repair from using rock ballast, with actual figures; comparative merits of rock and other kinds of ballast.
3. Best methods of preventing creeping of track and providing for expansion, with actual results of experience.

4. Best weight and form of spike, with specimens and number per keg.

5. Best form of joint for 60 to 70-lb. rail.

6. Ties.—Best time of year for cutting. Relative merits of preserved woods. Iron and glass ties, with opinions.

7. Best method and device to avoid accidents to train men from getting their feet caught in guard-rails and frogs.

8. Railroad crossings.—Should grade crossings ever be permitted if they can be reasonably avoided. Cost of them to railroads.

9. Cat-le guards and fences.—Best material to use. How constructed.

10. Duties of road-masters, and methods of management.

The first six questions were left for discussion at the last meeting.

It is earnestly hoped that each road-master receiving this notice will be present, and will also extend to all road-masters in his vicinity an invitation to attend the meeting. The subjects for discussion are of interest to every road-master, and a large attendance is anticipated.

Badges will be furnished at hotel office on application.

ELECTIONS AND APPOINTMENTS.

Atchison, Topeka & Santa Fe.—Chief Engineer A. A. Robinson, who has been acting as Superintendent of the Southern Division, is relieved from that duty, and will remove his office (as Chief Engineer) to Topeka, Kan. Mr. P. Leeds is appointed Superintendent Southern Division, with office at Las Vegas, N. M. Mr. J. B. Fraley is appointed Train-Master Southern Division, with office at San Marcial, N. M. Mr. Fraley was recently on the Chicago & Grand Trunk road.

Atlantic & Pacific.—Mr. D. B. Sibley has been appointed Purchasing Agent for this company, and also for the Sonora and the Mexican Central roads. He was recently Assistant Purchasing Agent of the Chicago, Burlington & Quincy.

G. T. Wiswall, Assistant Superintendent of Construction, is appointed also Superintendent of the Second Division, from Crane's, N. M., to Bingham City, Arizona.

Boston, Hoosac Tunnel & Western.—At the recent annual meeting in Mechanicsville, N. Y., the following directors were chosen: Geo. I. Post, Fairhaven, N. Y.; Myron P. Bush, Buffalo, N. Y.; Josiah Case, Vernon, N. Y.; W. V. Reynolds, Schaghticoke, N. Y.; F. L. Ames, Elisha Atkins, Wm. L. Burt, Estes Howe, E. B. Phillips, Boston; H. M. Benedict, C. G. Fracklyn, Daniel James King, S. V. White, New York.

Buffalo & Rock City Pipe Line.—The officers of this company are: President, Franklin A. Kalbfleisch; Vice-President, Alfred P. Wright; directors, John H. Dikler, Theodore V. Fowler, Albert M. Kalbfleisch, Richard H. Lee, Daniel N. Lockwood; Secretary, Theodore V. Fowler; Treasurer, Albert M. Kalbfleisch; Superintendent, George E. Mann.

Chicago, Burlington & Quincy.—Official announcement is made of the appointment (which we have heretofore noted) of Mr. James C. Peasley to be Treasurer in place of Mr. Amos T. Hall, resigned. The change took place Sept. 1.

The Aurora (Ill.) Beacon says: Mr. Horace Steadman, one of the old time engineers, and who has run the pay-car engine for several years past, has been promoted as Foreman of the round-houses here, and assumed his new duties Monday morning. Mr. Steadman is a skillful mechanic, a first-class engineer, and withal one of the most popular employees of the company.

We noted last week the appointment of another man to the same position, also on the authority of the Beacon. This being the latest statement, we presume it is correct.

Chicago & Eastern Illinois.—Mr. Robert Forsyth, late General Freight Agent, has been appointed General Traffic Manager of this road and its controlled line, the Evansville & Terre Haute.

Mr. C. G. Grammer has been appointed General Agent, with office in Evansville, Ind.

East Tennessee, Virginia & Georgia.—Mr. T. D. Flipper has been appointed General Auditor and Assistant to the President, with office in Knoxville, Tenn.

The following circular from President E. W. Cole is dated Aug. 23: "Capt. Jno. A. Grant having resigned the position of General Superintendent of the Memphis & Charleston Railroad, the duties of that position will hereafter be performed by Maj. Jno. F. O'Brien, General Superintendent of the East Tennessee, Virginia & Georgia Railroad, who will be obeyed and respected accordingly by all employees of the Memphis & Charleston Railroad."

Indianapolis, Chicago & Northern.—The directors of this new company are: Addison Bybee, Charles Kahlo, Daniel M. Ransdell, W. A. Rinehart, L. Smith, U. M. Stoddard, E. M. Wolfe.

Manitoba Southwestern.—Messrs. Charles Adams, Henry S. Adams, C. R. Rowell and W. S. Stokes, all of New York, have been chosen directors in place of W. R. Brown, James Kemp, W. N. Kenney and Wm. Murdock, resigned.

Maryland State Directors.—At a meeting held in Annapolis, Aug. 25, the Maryland Board of Public Works elected the following state directors in various companies: Baltimore & Ohio.—John C. Walsh, Outerbridge Horsey, J. Brinkley, Geo. Colton. Kent County.—W. S. Walker, Samuel H. Merrett, R. C. Johnson. Queen Anne & Kent.—Dr. Washington Finley, Wm. McKinney, Edward H. Emory. Maryland & Delaware.—Samuel Hambleton, Edward Lloyd, Wm. C. Satterfield. Wicomico & Pocomoke.—Thomas Humphreys, Wm. Showers, L. L. Derreckson. Eastern Shore.—E. E. Jackson, Wm. H. Gale, Wm. H. Roach. Worcester.—Dr. John T. Hammond, Littleton R. Funnell. Worcester & Somerset.—John P. Hodges. Chesapeake & Delaware Canal.—J. Alex. Shriver.

Massachusetts Central.—Mr. John D. Palmer has been appointed General Freight Agent. He has been for a long time on the Fitchburg road.

Mexican Central.—Mr. D. B. Sibley has been appointed Purchasing Agent. He is also Purchasing Agent of the Atlantic & Pacific Company.

Mr. John T. Odell is appointed General Superintendent. He was recently Superintendent of the Western Division of the Kansas Pacific.

Mt. Pleasant & Latrobe.—The officers of this new company are: President, A. H. Hutchinson; directors, George W. Blair, Horace B. Champion, Thomas B. Hutchinson, Wm. Jones, F. L. Shallenberger, O. P. Shupe, Isaac S. Van Voorhis. Office at Latrobe, Pa.

New York, Chicago & St. Louis.—The following appointments have been made by General Superintendent H. L. Morrill: M. E. Wattles, Division Superintendent Western Division, with office at Wanatab, Ind.; Charles H. Cory, Superintendent Middle Division, with office at Fostoria, O.; George T. Williams, Superintendent of Telegraph, with

office at Postoria, O. Mr. Cory succeeds Mr. Robert Stewart, who has gone to the Baltimore & Ohio.

Niagara River Transit Co.—The directors of this company are: A. P. Wright, S. S. Guthrie, John F. Moulton, Thompson Hersee, P. P. Pratt, John Allen, Jr., S. S. Rogers, J. A. Holloway, N. K. Hopkins, D. E. Bailey, David S. Bennett, R. R. Hefford, Harry H. Koch. Most of these directors are residents of Buffalo.

Pennsylvania Company.—Mr. John M. Kniball, Superintendent of the Erie & Pittsburgh road, has been appointed Superintendent of the Ashtabula & Pittsburgh also, in place of D. B. McCoy, resigned.

Peoria & Western.—The directors of this new company are: John H. Dutcher, John G. Fonda, F. W. Menke, Quincy, Ill.; John H. Finlay, Warsaw, Ill.; Stephen B. Kenrick, Ft. Madison, Ia.; E. W. Merrill, Menominee, Wis.; Henry Ketchum, New London, Wis.; David M. Kelly, Green Bay, Wis.; Henry H. Osborn, Chicago.

Philadelphia, Wilmington & Baltimore.—Mr. C. K. Lodge has been appointed Superintendent of the Central Division (the former West Chester & Philadelphia and the Philadelphia & Baltimore Central roads) in place of Henry Wood, Acting Superintendent. Mr. Lodge was formerly Superintendent of the Shamokin Division of the Northern Central.

Pittsburgh, Cincinnati & St. Louis.—The following circular from General Manager Caldwell is dated Pittsburgh, Aug. 26:

"The organization adopted Aug. 1 instant provides that the Pittsburgh, Cincinnati & St. Louis Division, the Little Miami Division and the Muskingum Valley Division shall be in charge of a General Superintendent.

"The authority of Mr. S. M. Felton, Jr., General Superintendent Pittsburgh, Cincinnati & St. Louis Division, is extended over the Little Miami Division and the Muskingum Valley Division; and the division superintendents will report directly to him, commencing Sept. 1.

"Mr. E. B. Taylor is appointed Superintendent Pittsburgh, Cincinnati & St. Louis Division, to take effect Sept. 1, in place of Mr. J. H. Barrett, resigned. For the present, his office will be at Dennison, Ohio."

St. Louis, Keokuk & Northwestern.—At a recent meeting of the board W. W. Baldwin, J. S. Cameron and T. S. Howland were chosen directors to fill vacancies made by resignation. The new directors are all officers of the Chicago, Burlington & Quincy.

St. Paul, Minneapolis & Manitoba.—Mr. John C. Hamilton, late Assistant General Freight Agent, has been appointed General Agent, with headquarters in Minneapolis.

Toledo, Delphos & Burlington.—Col. Horace Scott has been chosen Second Vice-President. He was formerly for a long time General Superintendent of the Jeffersonville, Madison & Indianapolis road.

Mr. F. A. Phillips has been appointed General Manager, dating from Sept. 1. He was formerly on the Atlantic & Great Western.

Union Pacific.—Mr. O. H. Dorrance is appointed Superintendent of the Western Division of the Kansas Division, in place of John T. Odell, who has gone to the Mexican Central. Mr. Dorrance was formerly on the Texas & Pacific.

Vicksburg & Meridian.—Mr. Isaiah Hardy is appointed General Freight and Ticket Agent and Superintendent of Transportation, with office at Vicksburg, Miss., in place of G. D. Lawrence, resigned.

Wabash, St. Louis & Pacific.—Mr. George C. Kinsman has been appointed Assistant General Superintendent of Telegraph. He has been for several years Chief Train Dispatcher of the Springfield Division.

PERSONAL.

—Mr. D. B. McCoy has resigned his position as Superintendent of the Pennsylvania Company's Ashtabula & Pittsburgh line.

—It is reported that Mr. M. E. Ingalls has sold his interest in the Cincinnati, Indianapolis, St. Louis & Chicago road, and that he will soon retire from the presidency of the company.

—It is reported that Mr. A. W. Soper, late General Manager of the St. Louis, Iron Mountain & Southern, will accept a position with the Wagner Sleeping Car Company, either as Vice-President or General Manager.

—The report that Mr. Charles P. Clark, formerly General Manager of the New York & New England, had been appointed General Manager of the New York, New Haven & Hartford road, is denied by officers of that company.

—Mr. John Newell, General Manager of the Lake Shore & Michigan Southern road, is going to Europe on a leave of absence for six months. It is reported that General Freight Agent Hills will be acting manager during his absence.

—Mr. John D. Moody, Superintendent of the New York & New Haven Division of the New York, New Haven & Hartford road, has tendered his resignation conditionally. He declines to remain on the road unless he has more help in his office.

—Mr. George W. Jones, for a number of years Chief of the Car Record Department of the Pennsylvania Railroad, died Aug. 27 at his residence at Swarthmore, near Philadelphia. He was about 40 years old, and his health had been failing for some time.

—Mr. J. H. Barrett, Superintendent of the Pittsburgh & Columbus Division of the Pittsburgh, Cincinnati & St. Louis, having resigned to accept the office of Superintendent of the Cincinnati, Hamilton & Dayton, was tendered a banquet and reception on Aug. 27, by the employees of his division.

—Mr. James F. D. Lanier, senior partner of the banking house of Winslow, Lanier & Co., died at his residence in New York, Aug. 27, aged 80 years. Mr. Lanier was born in Beaufort, S. C., but his family soon removed to Indiana, and in 1833 he was engaged in the formation of the State Bank of Indiana. In 1849 he came to New York and formed the banking connections which continued till his death. Mr. Lanier was connected as financial agent with many railroad companies, and his house has negotiated the sale of a very large amount of railroad securities.

—Mr. Samuel B. Ruggles, one of the oldest lawyers in New York, died at Fire Island, N. Y., Aug. 28, aged 82 years. Mr. Ruggles had accumulated a large fortune and for many years devoted his time to the study of public affairs, taking a prominent part on many questions of public interest. In 1839 he was appointed one of the Canal Commissioners of New York state, and for a number of years was President of the Canal Board, taking an active part in all measures designed to increase the value of the canals and their efficiency in transporting freight. He was deeply in-

terested in the early construction of railroads, and 40 years ago prepared a plan for an extensive system of railroads and canals in New York.

TRAFFIC AND EARNINGS.

Railroad Earnings.

Earnings for various periods are reported as follows:

	1881.	1880.	Inc. or Dec.	P. c.
Seven months ending July 31:				
N. Y. & Pa. & Ohio.....	\$3,156,654	\$2,855,168	I.	\$301,486 10.6
Northern Central.....	3,102,679	2,606,089	I.	496,590 16.4
Net earnings.....	1,103,724	850,239	I.	253,485 29.8
Month of June:				
St. John & Maine.....	\$9,638	\$7,428	I.	\$2,210 3.0
Deficit.....	2,504	517	I.	1,987
Month of July:				
N. Y. & Pa. & Ohio.....	\$422,657	\$433,538	D.	\$10,881 20.5
Northern Central.....	440,811	450,398	D.	9,587 2.1
Net earnings.....	63,263	161,523	D.	98,260 60.6
Third week in August:				
Chi. & Alton.....	\$210,509	\$200,115	I.	\$10,394 5.2
Chi. & Eastern Ill.....	44,008	30,579	I.	13,429 20.3
Houston & Tex. Cen.....	42,901	68,175	D.	25,274 59.6
Ind., Bloom. & West.....	30,157	30,440	D.	283 0.9
Mo. Pacific.....	165,387	126,304	I.	39,083 31.0
Mo. Kan. & Tex.....	169,974	123,947	I.	46,027 37.1
St. L., I. M. & So.....	155,800	142,107	I.	13,693 9.6
Tol. Del. & Bur.....	10,146			
Wab., St. L. & P.....	427,300	321,000	I.	106,300 33.0
Week ending Aug. 13:				
Grand Trunk.....	\$41,525	\$44,735	D.	\$3,210 7.2
Week ending Aug. 19:				
Gt. Western.....	\$90,133	\$104,236	D.	\$14,103 13.6
Week ending Aug. 20:				
Chi. & Gd. Trk.....	\$32,920	\$36,351	D.	\$3,431 9.5

Grain Movement.

For the week ending Aug. 20, receipts and shipments of grain of all kinds at the eight reporting Northwestern markets and receipts at the seven Atlantic ports have been, in bushels, for the past eight years:

Year.	Northwestern receipts.	Northwestern shipments.	Atlantic receipts.
1874.....	5,063,941	3,105,046	606,194 19.2
1875.....	4,420,986	3,146,585	1,025,704 32.6
1876.....	4,280,052	3,872,993	1,520,811 39.3
1877.....	5,331,315	4,632,809	1,036,221 22.6
1878.....	9,015,180	5,725,812	1,303,453 22.8
1879.....	6,559,190	6,238,710	1,818,087 29.1
1880.....	7,747,247	6,780,435	2,032,203 29.9
1881.....	7,502,463	5,400,136	2,450,061 45.5

Thus the receipts of the Northwestern markets were nearly as large as in the corresponding week of last year, but a fifth smaller than in 1878. The shipments of these markets, however, were a fifth less than last year and the smallest for four years. The rail shipments were the largest for some weeks, and no shipments down the Mississippi were reported. The Atlantic receipts were 30 per cent. less than last year and the smallest for four years.

Compared with the previous week this year, there was an increase of 800,000 bushels in Northwestern receipts; but a decrease of 440,000 in Northwestern shipments and of 470,000 in Atlantic receipts. It was in this week ending Aug. 20 that lake rates made a great advance; but as the lake shipments were but 2,950,000 bushels that week, against 3,630,000 bushels the previous week and often before, the advance was probably due to a lack of tonnage and not to the pressure of grain freights.

Of the Northwestern receipts for the week this year Chicago had 56.2 per cent., St. Louis 15.2, Toledo 12.8, Peoria 9.4, Detroit 3.0, Milwaukee 2.4, and Cleveland 1.0 per cent. The gain over the previous week is chiefly at Chicago (520,000 bushels), Toledo (169,000), and Peoria (117,000). St. Louis showing little change. The receipts continue to be chiefly corn (65 per cent. of the whole in the week ending Aug. 20), and Chicago received 70 per cent. of this grain. St. Louis but 12½ per cent. In wheat Toledo took the lead, with 510,500 bushels out of 1,640,000, while Chicago had 410,000, and St. Louis 374,500; Detroit had also large wheat receipts (212,000 bushels), and large receipts at these places indicate that the new winter wheat is coming forward freely, which is a natural result of the high prices current.

Of the Atlantic receipts New York had 44 per cent., Baltimore 24.2, Philadelphia 12.5, Boston 8.9, Montreal 6.9, New Orleans 3.2, and Portland 0.3 per cent. New York's percentage is the smallest for a long time and Boston's the largest. Otherwise there is no great change from the previous week.

Exports from Atlantic ports for five successive weeks have been:

	1881.	Aug. 24.	Aug. 17.	Aug. 10.	Aug. 3.	July 27.
Flour, bbls.....	106,193	71,111	75,094	64,158	72,329	72,329
Grain, bus.....	4,138,884	4,019,291	4,507,908	4,240,467	3,984,460	
1880.						
Flour, bbls.....	110,191	97,585	71,183	110,477	93,647	
Grain, bus.....	4,444,497	8,161,262	6,495,959	7,986,382	6,205,671	

During the eight weeks ending Aug. 20 the exports were less this year than last by 155,893 barrels of flour and 20,172,113 bushels of grain.

Receipts and shipments at Chicago and Milwaukee for the week ending Aug. 26 have been:

	Receipts.		Shipments.	
	1881.	1880.	1881.	1880.
Chicago.....	4,002,128	5,286,993	4,179,323	4,019,056
Milwaukee.....	373,105	188,410	494,603	166,117

Taking the two places together, their grain receipts are nearly as great this year as last, and their shipments 11 per cent. greater; and if flour were included, there would be a considerable increase in receipts this year.

Receipts and shipments at Buffalo for the week ending Aug. 26 were:

	Receipts.		Shipments.	
	1881.	1880.	1881.	1880.
By water.....	1,928,500	3,944,500	1,010,750	2,232,500
By rail.....	733,500	806,100	1,301,250	1,293,250
Total.....	2,662,000	4,750,600	2,312,000	3,525,750

Thus the lake receipts were not half as great this year as last, and rail receipts were a little smaller. Canal shipments were about 55 per cent. less than last year; rail shipments nearly the same.

Receipts at four Eastern ports for the same week ending Aug. 26 have been:

	New York.	Boston.	Phila.	Baltimore.	Total.
1881.....	2,660,319	678,065	539,000	1,156,745	4,941,029
P. c. of total.....	54.0	11.7	10.9	23.4	100.0
1880.....	3,560,008	524,035	1,090,800	1,536,884	6,711,827
P. c. of total.....	53.1	7.8	16.2	22.9	100.0

The great changes this year compared with last are a considerable increase in percentage at Boston and a large decrease at Philadelphia, New York and Baltimore remaining nearly the same. Boston heretofore has been for some weeks much below its percentages last year, and Baltimore rarely so nearly equal to them as last week.

Of the New York receipts 1,552,535 bushels, or 58.2 per cent. of the whole, were by rail this year, against 1,037,746 bushels, or 29 per cent. of the whole, last year.

Coal Movement.

Coal tonnages for the week ending Aug. 20 are reported as follows:

	1881.	1880.	Increase.	P. c.
Anthracite.....	599,684	430,586	169,098	39.2
Semi-bituminous.....	102,236	78,978	23,258	29.4
Bituminous, Penna.....	47,494	40,316	7,178	17.7
Coke, Penna.....	41,952	35,690	6,262	17.5

The miners of the Hocking Valley region in Ohio have decided to ask an advance in the price of mining from 70 to 80 cents per ton. They have resolved to strike if refused, but have not yet decided whether to go out at once or wait until October.

Canal Traffic.

The report for the week ending Aug. 22 for all the New York canals compares as follows with that of last year:

	1881.	1880.	Inc. or Dec.	P. c.
Tons shipped:				
Lumber.....	67,637	53,523	Inc.	14,114 21.3
Grain.....	40,443	70,930	Dec.	30,487 43.6
Iron ore and iron.....	28,404	21,064	Inc.	7,340 34.8
Coal.....	53,523	37,934	Inc.	15,589 41.1
Sugar, molasses and coffee.....	238	2,369	Dec.	2,131 90.0
Total tons.....	225,295	221,061	Inc.	3,634 1.2
Total tolls.....	\$27,384	\$39,590	Dec.	\$12,206 30.8
Total miles boats cleared.....	287,161	378,505	Dec.	91,344 21.5

So far as tons shipped are concerned, we see that there was even a little increase this year, but the decrease of 21½ per cent. in miles cleared by boats shows that the average hauls were much shorter; as might be inferred from the items in which there have been large increases, such as lumber and coal, much of the former and most of the latter not going the full length of the canals. The shipments of anthracite are nearly twice as great as last year, and are extraordinarily great. The effect of the very low west-bound rail rates is shown in the great reduction of sugar and molasses shipments—only a tenth as great as last year. It is in this item chiefly that the railroads are able to increase their freight from New York by low rates.

Petroleum.

Stowell's Petroleum Reporter gives the following statements for the Pennsylvania oil regions in July, in barrels of 42 gallons:

	1881.	1880.	Increase.	P. c.
Production.....	2,372,678	2,172,542	200,136	9.2
Shipments.....	1,925,532	1,231,611	693,921	56.3
Stock, July 31.....	24,888,337	14,116,753	10,771,584	76.3
Number of producing wells.....	17,000	13,275	3,725	28.1

There was an increase of 900 producing wells during the month. The shipments out of the region were: New York, 796,062 barrels; Philadelphia, 211,119; Baltimore, 57,905; Cleveland, 336,886; Pittsburgh, 203,306; local points, 148,357; refined at Oil Creek refineries, 171,897; total, 1,925,532 barrels.

Boston Terminal Facilities.

The Boston Advertiser says: "A glance at the work that is being pushed forward by the Hoosac Tunnel Dock & Elevator Company shows that Tudor's, Damon's and Hittenger's wharves are things of the past, and in their stead there will soon be elegant deep-water docks, backed by stone walls. Mr. Charles R. McLean is constructing a grain elevator of the capacity of 600,000 bushels, which will be completed during the fall months. The grain for this elevator can be received either by the Tunnel line or by the Grand Trunk from the West, by way of Montreal and the Vermont Central Railroad. These same two lines are now bringing freight of all descriptions to Constitution wharf to be transferred to the ocean steamers. The Shawmut elevator, with a storing capacity of 160,000 bushels of grain, is located at the end of this wharf, and from it the grain is delivered on board the Leyland steamers, and by barges to vessels in all parts of the harbor. It should here be mentioned that grain is frequently received at the Fitchburg station, where it is weighed in the cars and then shoveled on board the barges for delivery. The Lowell Railroad, also, has at the Mystic wharf two weighing hoppers, with facilities for delivering 50 car-loads of grain in 10 hours; the grain is received at this point by way of the Grand Trunk.

"The grain elevator that Mr. McLean is building at the freight terminus of the New York & New England Railroad, is, in many respects, the most important movement of the kind in Boston harbor. Mr. McLean is hurrying forward this work with all possible speed; the building is all ready for the slaters, while the interior work is so far completed that the machinery is now arriving daily, and the room is ready for the 500-horse power upright engine, which will be furnished by the Atlantic Works at East Boston. The fact that the New York & New England Railroad has a direct connection with the Pennsylvania and Star Union line to all points West and Northwest makes the freight terminus in this city a very important one."

Southern Railway & Steamship Association.

A new tariff prepared by the Rate Committee has been issued by General Commissioner Powers and took effect Sept. 1. Under it the rates per 100 lbs. to Atlanta are, in cents:

From:	1st.	2d.	3d.	4th.	5th.	6th.	A.	B.
New York.....	100	90	80	70	58	48	36	42
Baltimore.....	95	85	75	65	55	45	34	40
Norfolk.....	80	71	63	55	46	38	29	34
Charleston.....	68	61	54	47	40	32	24	29
St. Louis.....	118	105	92	80	68	57	47	51
Cincinnati.....	95	85	75	65	55	45	34	38
Louisville.....	85	75	65	55	45	34	24	28
Nashville.....	75	68	61	53	45	36	27	30

From points marked * the rates are Green Line rates; the rates from those points to Atlanta by eastern lines are 5 cents per 100 lbs. higher on each class.

Boston and Philadelphia take New York rates; Fort Royal, Savannah and Brunswick on the six numbered classes are, by Green Line, in cents per 100 lbs.:

From:	1st.	2d.	3d.	4th.	5th.	6th.
St. Louis.....	140	120	100	85	70	60
Cincinnati.....	129	107	88	74	60	51
Memphis Levee.....	127	105	86	72	58	49
Nashville.....	109	90	74	62	50	42

This revision has been made necessary by the low east-bound rates prevailing north of the Ohio.

A meeting was held in Louisville, Aug. 25, between a committee of this Association and representatives of the Northwestern lines, in relation to the question of fixing rates over each others' lines. This Association has heretofore fixed rates in both directions. No conclusion was reached, the matter being left open until after the yearly meeting of the Southern Association.

Growth of Freight Movement at Indianapolis.

An Indianapolis paper recently said of the delay of freight cars at that point: "Yesterday the Vandallia, the Indianapolis & St. Louis, and the Pittsburgh, Cincinnati & St. Louis yards at this point were completely blockaded with cars, so heavy is business, and more yard room for these companies has become imperative, as traffic is greatly delayed, it being so troublesome to make up trains when cramped

in yard room. All the companies named have plenty of ground on which to complete an excellent system of tracks, and there seems to be no need of delay in carrying out the plans that have been talked of three years past by the managements of the companies. The fact is, that only the Bee Line, of the twelve roads centering here, has ample yard room. The Cincinnati, Indianapolis, St. Louis & Chicago has ground on which a commodious and an excellent system of tracks could be laid out. The same is true of the Indiana, Bloomington & Western road, yet improvements in this direction with all companies move slow, not by any means keeping pace with the increase in business of the roads. Take, for instance, the Vandalia; in the week ending Aug. 21, 1875, the company received and forwarded at this station 1,301 cars; the corresponding week this year, 3,152. Take the Indianapolis & St. Louis; in the week ending Aug. 21, 1875, 871 cars were received and forwarded over this road; the corresponding week this year, 2,506. The Pittsburgh, Cincinnati & St. Louis in the week ending Aug. 21, 1875, received and forwarded at Indianapolis 935 cars; in the week ending Aug. 20, this year, 3,296. While there has been this immense increase in traffic, the yard room of neither of the roads above mentioned has been increased in capacity to the extent of 200 cars, according to statements of the yard-masters. Now the time has come when something must be done that the prompt movement of through business will not be interfered with."

THE SCRAP HEAP.

Government Contracts.

Col. J. N. Macomb, United States Engineer, will receive at his office, No. 1,125 Girard street, Philadelphia, until noon of Sept. 15, proposals for the following work in the Delaware River: Dredging near the upper end of Petty's Island; dredging near Petty's Island; dredging in the main channel through Bulkhead Shoals; dredging the channel through Mifflin Bar; dredging the channel across Smith's Island Bar, between Philadelphia and Camden. Information and blank forms can be obtained at the office.

Evading Fare on Season Tickets.

The Boston & Lowell and the Boston & Albany Railroad companies have decided, for their own protection, to furnish their season ticket holders with punch tickets in place of the ordinary tickets heretofore used. It is intended to limit the passenger to one ride each way per day, and each time he rides his ticket is to be punched. As the ticket will be good for a single trip daily (Sundays excepted), it will, if used more frequently, expire before the quarter is out. Both roads have long had this change in contemplation, and will now put it in operation on Oct. 1. One of the greatest advantages also to be derived from it is the prevention of free rides by parties pretending to hold season tickets, but who in reality have had none for months. Commenting upon this practice, an exchange says: "It is said that men occupying a high position in society have been known to ride for months without having bought any ticket whatever. To the conductor's demand for 'tickets' they have answered 'season,' and the conductor has been obliged to accept their assurances or question their word. These parties may not be aware that their evasion of fare is known and recorded at the company's office every quarter, but such is the fact."—*Boston Traveller*.

The Boston roads deal much more easily with their commuters than those out of New York. On all the New York lines where monthly tickets are given they have to be punched for each ride taken by the holder. On some of the New York roads instead of commutation tickets, books good for 100 trips are sold, a ticket being torn out of the book by the conductor for each trip.

A Narrow Escape.

The Orange County Express on the New York, Lake Erie & Western road had a very narrow escape from destruction Wednesday morning. The train, which was full of passengers, was approaching Paterson at the rate of 40 miles an hour, and had just crossed West Paterson bridge, when the axle of the last wheel on the eastern side of the tender broke. Fortunately the wheel whirled around and was supported by the bar of the brake, and slid along harmlessly on two of the three rails with which the road is provided. The train was brought to a standstill as rapidly as possible, and no damage was done beyond the breaking of the axle. Had it not been for the double rail, and the peculiar manner in which the wheel was caught, the result of the accident would probably have been most disastrous.

Fencing.

Applicants for positions in the census bureau, at Washington, should be examined upon an ordinary railroad timetable. If they can work out the problems therein set forth they are born statisticians.—*Springfield Republican*.

Samuel Putnam, a Michigander, jumped off an Indiana railroad train running at 40 miles an hour, to pick up his hat. When the train backed Samuel got aboard with the remark that he would settle with the company for the 10 rods of fence he knocked down.

Commuters like to give pet names to their favorite conductors. On a short suburban road we could name the conductors are known popularly as "Old Dignity," "Old Daddy," "Grandma," "Fuss-and-Feathers," "The Brick," "The Hog," "Fat John" and "The Prize-fighter." Popularity is not always a test of true merit, and from the Superintendent's point of view "Grandma" is probably the best conductor on the road and "The Brick" the poorest. "The Prize-fighter" is generally supposed to be afraid of tramps.

Snoring.

But there is another phenomenon which has been noticed during the last month, and which is as remarkable as the disappearance of hay fever. This is the increase in the volume and force of contemporary snoring. It is well settled by the testimony of married women and travelers in steamboats and sleeping cars that there has lately been an enormous increase in the number of snorers, and that the snoring of habitual snorers has become louder and stronger than ever before. Hitherto only 11 per cent. of the male occupants of sleeping cars have snored, but during the month of August the snorers have increased to no less than 62 per cent. In former days the snorer, whose apparent aim was to strangle himself, was so infrequent as to attract marked attention in the shape of boots and other missiles when he traveled in a sleeping car, but now nearly every snorer seems bent on self-strangulation, though, with deliberate malice, he always stops short of death. Though hay fever has vanished, snoring has taken its place, to the great grief and injury of honest and reputable citizens.

Of course, the failure of the peach crop must have some connection with this vast growth of snoring. How the consumption of peaches formerly prevented men from snoring is something that we cannot comprehend, but of the fact that in the absence of peaches the snoring plague is devastating our land there can be no question. Now that we know the results which follow the failure of the peach crop, we must hope more earnestly than ever that the peach crop will never fail again.—*New York Times*.

OLD AND NEW ROADS.

Atlantic & Pacific.—This road was opened for business Aug. 29 to Winslow, Arizona, 72 miles westward from the late terminus at Navajo Springs, 275 miles from the junction with the Atchison, Topeka & Santa Fe at Isleta, N. M., and 285 miles from Albuquerque. Work is progressing steadily westward.

Augusta & Knoxville.—The track on this road is now laid from Augusta, Ga., north by west to Meriwether, S. C., a distance of 19 miles. The grading is nearly finished to Dorris Mine. The company hopes to have track laid to Greenwood, the crossing of the Columbia & Greenville road, 70 miles from Augusta, by the close of the year.

Baltimore & Drum Point.—A new location has recently been made for this proposed road from Baltimore by way of Cypress Point to Waterbury, 19 miles. From Waterbury to Annapolis, seven miles, the track of the Annapolis & Elkridge road will be used, making the total distance from Baltimore to Annapolis 26 miles. The officers of the company are now engaged in securing the right of way.

Boston & Albany.—The new passenger station on Kneeland street, Boston, will be opened Sept. 4, and trains will run to and from the new building from that time. There is still some work to be done on the interior fittings and furnishing.

Buffalo & Rock City Pipe Line.—This line, which has been built to carry oil from the Bradford District to Buffalo, is now completed and in use. It is thus described by the *Buffalo Commercial Advertiser*: "The length of the line of pipe is between 63 and 64 miles, and the diameter of the tubing 4 in. The southern terminus of the line is at Rock City, a village near the Pennsylvania line, nearly 2,000 feet higher than this city. At Rock City there are a number of tanks with a capacity of 25,000 barrels each, from which oil is taken to be sent through the pipes. There is a pumping station at the place provided with one of Blake's improved duplex pumps. Midway between Rock City and Buffalo, at a place called Ashford, there is another pumping station. The Rock City pump forces the oil to Ashford and from the latter place it is sent on to the tanks here. Were it not for the hills and valleys between Buffalo and Rock City the oil could be sent through the entire line with ordinary pressure. At this end of the line the company owns 25 acres of land, located on Elk Street near Babcock, and close to Buffalo River. Here there are four large iron tanks with capacity for holding 37,000 barrels of oil each, or a grand total of 148,000 barrels. It is estimated that the flow of oil into these tanks will be at the rate of 220 barrels an hour.

"The company will have facilities for providing all the refineries in Buffalo with oil, and if the business warrants it will build several large tanks in addition to those now on the ground. In this important enterprise half a million dollars have been expended, the sum going to secure land, right of way, pipe, pumping stations, fixtures, and a telegraph line. The capital stock of the company is \$250,000."

Cairo & St. Louis.—A bill in equity has been filed in the Circuit Court at Cairo, Ill., by Wm. P. Halliday, on behalf of certain holders of claims against the road, asking that the bondholders, in whose interest the road has been managed since 1877, may be made to account for the receipts, and that other relief may be had by the complainants.

Central of Georgia.—Work is now in progress on the extension of the Blakely Branch of this company's southwestern road from Arlington, Ga., to Blakely, 16 miles. Most of it was graded several years ago.

Central of New Jersey.—It is announced that a second track will be laid on the whole length of the Long Branch Division this fall. The travel this season has been so heavy that a second track is much needed. Nearly all the bridges on this division have been built for two tracks and much of the grading has also been made for double track.

Central Vermont.—The masters appointed by the Vermont Chancery Court in the Langdon suit to take testimony as to the liabilities of this company as trustee and receiver of the Vermont Central and the Vermont & Canada roads, met in St. Albans, Vt., last week. At the first sessions a large amount in the various issues of bonds made under the trust were presented and proved. Counsel for the Grand Trunk Company presented the claim of that company for about \$400,000 due from the trust on account of various transactions.

Later in the week a great deal of testimony was taken as to the floating debt of the trust and the expenses of operation under the Central Vermont Company. The claim of that company for about \$700,000 was presented, with the evidence supporting it.

About \$3,500,000 of the trust bonds in all were proved. Some more testimony is to be taken yet, and the masters will then proceed to make up their report, which will probably be presented to the Court at its September term.

Chicago, Burlington & Quincy and the Wabash, St. Louis & Pacific.—Of the complications between these companies, the *Boston Transcript* says:

"It will be remembered that the Union Pacific, the Chicago, Burlington & Quincy and the Wabash entered into an agreement about a year ago defining their respective territories. In this agreement the Union Pacific and the Wabash agreed to keep out of the territory of the Chicago, Burlington & Quincy in Nebraska; the Chicago, Burlington & Quincy agreed not to extend its line to Denver, and the Wabash agreed to keep out of the territory of the Chicago, Burlington & Quincy in Iowa, save that these two roads were to extend the Missouri, Iowa & Nebraska road jointly through southern Iowa to Omaha. During this summer the Wabash, in violation of this agreement, has built into Des Moines. This the Chicago, Burlington & Quincy considered a violation of the compact of 1880, but only grumbled. A few weeks ago the blood of the Chicago, Burlington & Quincy managers was again stirred by the organization of a company to extend the Missouri Pacific up the west bank of the Missouri into the Nebraska territory of the Chicago, Burlington & Quincy. Mr. Perkins, the Vice-President of the Burlington, notified Mr. Gould that his company considered this action to be in violation of the agreement of 1880. Mr. Gould said that he could not so regard it, and that he proposed himself to build this west shore road into Nebraska. Forthwith the Burlington men put on their war paint, and during the past three weeks many councils have been held in this city, at which not only the directors of the Chicago, Burlington & Quincy, but all the local managers West have been present. They formally notified the Union Pacific and the Wabash companies that, the compact of 1880 having been twice broken (first by the Wabash extension to Des Moines, and second by the starting of a railroad up the West bank of the Missouri by a company in which the Wabash and Union Pacific were the directors), the Chicago, Burlington & Quincy Railroad Company should act independently in regard to its extensions, and as its own interests dictated. This, of course, meant nothing less than an immediate ex-

tension to Denver. Mr. Jay Gould then notified the Burlington Company that if it built into Denver he would immediately extend the Missouri, Kansas & Texas from Quincy into Chicago, parallel with the Chicago, Burlington & Quincy's Illinois line."

Chicago, Milwaukee & St. Paul.—The following circular has been issued in relation to the \$5,000,000 new common stock lately authorized:

"Notice is hereby given that all of said stockholders who appear of record on the closing of the transfer-books on the 20th day of September, 1881, will be entitled to receive their *pro rata* of said stock upon the terms and conditions fixed by the board of directors, as follows:

"The proportion to which shareholders will be entitled is 17½ shares of said stock for each 100 shares of stock; and in that ratio for whatever amount shall stand to their credit at the time of the closing of the books aforesaid.

"Payments for said stock are required to be made as follows: 25 per cent. on the 27th day of October, 1881; 25 per cent. on the 27th day of November, 1881; 25 per cent. on the 27th day of December, 1881, and the remaining 25 per cent. on the 27th day of January, 1882.

"Holders of 100 shares or less may, at their option, pay the whole amount of the several installments on the 27th day of October, and receive full-paid certificates for the whole amount of stock to which they are entitled.

"Certificates of full paid stock will be issued at the times of the several payments for the amounts paid.

"No certificates for fractions of shares will be issued, but parties entitled to fractions may consolidate with other parties to make up whole shares.

"Stockholders who elect to take their *pro rata* of said stock are required to give written notice at the office of the company in New York on or before the 15th day of October, 1881, of their intention to take and pay for said stock at the several dates on which payments are to be made; and stockholders who fail to give said notice will forfeit their right to the same; and a failure to pay either of the installments at the times they are due will work a forfeiture of their right to the portion of stock for which the payments should have been made."

Cincinnati & Georgia.—This is the name of the organization under which the East Tennessee, Virginia & Georgia Company will build the extension of its Macon & Brunswick line from Atlanta, Ga., to Rome. The location of the road has been completed, and the contract for grading was last week let to Hill & McKechnie, of Chicago, who were the lowest bidders.

The special charter of the company, to which some opposition has been made, has now passed both houses of the Georgia Legislature.

Cincinnati, Indianapolis, St. Louis & Chicago.—It is reported that Mr. M. E. Ingalls has sold out his own stock, and that of the Boston people whose interest he represents, to the Chesapeake & Ohio syndicate. It is said that he received 107 for all the stock sold.

Cincinnati Southern.—A Cincinnati dispatch of Aug. 25 gives the following statements, in which it may be noted that the amounts named in each bid are rentals to be paid yearly during the period of five years named:

"Bids for the lease of the Cincinnati Southern railroad were opened at noon by the trustees in presence of the bidders and others. The full board was present. The first bid opened was from the Louisville & Nashville Railroad Company, which was represented by E. P. Alexander, First Vice-President. The bid was as follows: For the first five years, \$500,000; for the second five years, \$700,000; for the third five years, \$800,000; for the fourth five years, \$900,000; for the fifth five years, \$1,000,000.

"The second bid was from the Cincinnati Railroad Company now operating the road. It was as follows: For the first five years, \$550,000; for the second five years, \$750,000; for the third five years, \$900,000; for the fourth five years, \$1,050,000; for the fifth five years, \$1,250,000.

"The third bid was by W. H. Clements, C. W. West, W. J. Lippincott and associates, who have been connected with the Cincinnati Railroad Company. They offer to pay an annual rental of \$500,000 for the road, and to pay during the whole period 25 per cent. of the gross receipts over and above \$2,000,000 per annum.

"The fourth bid was from R. G. Huston & Co., representing several Third street (Cincinnati) capitalists. It was as follows: For the first five years, \$720,000; for the second five years, \$810,000; for the third five years, \$960,000; for the fourth five years, \$1,120,000, and for the fifth five years, \$1,200,000.

"The fifth bid was from George F. Doughty and associates, who represent Cincinnati capital. Their bid was in three forms, of which the trustees can take their choice. They were as follows: First—For the first five years, \$747,000; for the second five years, \$817,000; for the third five years, \$1,000,000; for the fourth five years, \$1,100,000, and for the fifth five years, \$1,200,000. Second—For the first five years, \$606,000; for the second five years, \$707,000; for the third five years, \$1,000,000; for the fourth five years, \$1,200,000; for the fifth five years, \$1,500,000. Third—For the first five years, \$507,000; for the second five years, \$707,000; for the third five years, \$1,200,000; for the fourth five years, \$1,300,000; for the fifth five years, \$1,500,000.

"The sixth bid was from the Alabama Great Southern, represented by John Scott, Agent and General Manager. It was as follows: The proposition is not in exact accordance with the printed terms of the lease, but I trust it may prove acceptable. Our proposition is that we accept your published statement of the requirements necessary to put the road in complete condition, the extent of such capital to be mutually agreed upon. A to complete the road, B acquire present rolling stock, C machinery, stores, etc. That from the yearly net receipts a sufficiently large amount shall be retained by the Alabama Great Southern Railroad Company to pay 5 per cent. interest upon the capital advanced upon, as per paragraph one, and that in addition thereto another and a further amount shall be retained sufficiently to provide for a sinking fund which shall be adjusted year by year, and which will repay during the operation of the lease the capital expended. As the capital employed is reduced by the operation of the yearly sinking fund, the amount of interest retained will be proportionately decreased. We propose that the above shall be applied, subject to a retention of 60 per cent. of the gross revenue by the Alabama Great Southern for working expenses. All supplies and net earnings shall belong to the lessors. At the expiration of the lease the rolling stock and all other plant shall revert to the lessors. In connection with the above I will state if accepted, the action of my board is subject to the approval of the stockholders.

"The seventh bid was from Fred Wolfe and associates, of New York, representing a London, England, syndicate. It was as follows: For the first five years, \$800,000; for the second five years, \$900,000; for the third five years, \$1,000,000; for the fourth five years, \$1,090,000; for the fifth five years, \$1,250,000. This is also an Alabama Great Southern bid.

"The eighth bid was from James M. Clark and associates, of this city, representing Cincinnati capital. It proposed to

pay a monthly rental of \$58,833.33, with a right to purchase the road for \$20,000,000 at any time when the trustees can obtain the required legislation to enable them to make the transfer; \$3,000,000 will be given as a guarantee as soon as the bid is accepted, and when the sale is completed the sum of \$10,000,000 will be paid over to meet the maturing bonds. They will assume existing contracts for the rental of the connecting tracks of the Marietta & Cincinnati and the Cincinnati, Indianapolis, St. Louis & Chicago in this city, and the road now rented at Chattanooga, and also the contracts for completing the tunnels and two viaducts now in process of construction.

"The ninth bid was from the East Tennessee, Virginia & Georgia Railroad Company, represented by E. W. Cole, President. It was as follows: For the first five years, \$600,000; for the second five years, \$750,000; for the third five years, \$900,000; for the fourth five years, \$1,250,000, and for the fifth five years, \$1,400,000.

"The tenth bid was from General Samuel Thomas and associates, who represent a New York syndicate. It was as follows: For the first five years, \$880,000; for the second five years, \$1,100,000; for the third five years, \$1,250,000; for the fourth five years, \$1,375,000, and for the fifth five years, \$1,550,000. The board then adjourned and will consider the bids at some future meeting."

It will be seen that the lowest rental offered is \$500,000 a year, or nearly \$1,500 per mile. We add the following comments from a good authority:

"In the first place, it will be seen that the Louisville & Nashville, which General Alexander is reported to have said to a reporter of the Cincinnati Gazette some time ago could afford to pay more for the road than any other, has virtually made about the lowest bid, and is therefore out of the consideration of the matter. In the second place it will be noticed that the highest bid is made by General Samuel Thomas and associates, of New York. This company made its bid in the interest of the Cincinnati & Georgia syndicate, of which Colonel Cole is President. General Thomas and Mr. Seney are the leading stockholders in it. It is known as the Cole syndicate and General Thomas bid in the interest of this syndicate. Colonel Cole submitted, for form's sake, we presume, a separate bid in the interest of the East Tennessee & Virginia road. The next highest bid was made by the Erlanger syndicate, represented by Mr. Wolfe. It has been understood that this syndicate has also had an understanding with the Cole syndicate, as their interests do not clash, and they would mutually be interested in getting possession of the Cincinnati Southern. It will thus be seen that the two highest bids represent people favorable to the Cole syndicate and that the highest bid is made by the controlling owner of this syndicate stock. If any of the bids are accepted, therefore, this important property will become a part of the Cole or East Tennessee system. It is possible, however, that no bid may be accepted, but that the Sinking Fund Commission will refuse to indorse each and all bids, preferring to hold the road until the Legislature shall meet and give authority for its sale."

Cleveland, Mt. Vernon & Delaware.—Receiver Jones reports to the Court for July as follows:

Cash balance, July 1.....	\$14,147.28
Receipts from all sources.....	39,073.10
Total.....	\$53,220.38
Disbursements.....	49,057.00
Cash balance, Aug. 1.....	4,163.38

The disbursements exceeded the receipts by \$9,983.90 for the month.

Concord and the Boston & Lowell.—A report was telegraphed from Boston, Aug. 25, that an agreement had been concluded between the Boston & Lowell and the Concord companies, under which the two roads were to be worked together under a pooling contract, similar to that under which the Boston & Lowell and the Nashua & Lowell were operated for over 20 years. The roads were to be operated by a manager jointly chosen, the net receipts being divided by him in agreed proportion. It was also reported that provision had been made to allow the Northern (New Hampshire) and the Boston, Concord & Montreal to come into the pool. Officers of the companies, however, say that the report is premature, but do not deny that negotiations for such an agreement are in progress.

Connotton Valley.—The track on this road is now laid to Newburg, O., six miles northwest of the late terminus at Bedford, and 95 miles from the southern terminus at Dell Roy. Grading is nearly completed on the six miles remaining to finish the road to Cleveland, and track-laying is in progress.

Delaware, Lackawanna & Western.—This company is building extensive yards for cattle at Washington, N. J., on the Morris & Essex Division. The yards will be provided with extensive sheds for watering and feeding cattle.

Denver & Rio Grande.—A survey has been ordered for a branch from the Gunnison Division at Parlin's by Ohio City to Pitkin, Col., about 15 miles. The work will probably be light. An examination will also be made of the line from Pitkin to the Tin Cup mining district.

The branch from Canon City to Silver Cliff was badly damaged last week by a water-spout, and it will take several weeks to put it in order again. In some places the road-bed was entirely washed away and the ties and rails carried off a long distance.

Elizabeth City & Norfolk.—On the extension of this road from Elizabeth City, N. C., southwest to Edenton, about 30 miles, nearly all the grading is done, and track has been laid for five miles from Elizabeth City. The work is progressing steadily, and the company hopes to complete it by about the middle of October.

Flint & Pere Marquette.—The trustees of the land-grant mortgage pay \$250,000 bonds Sept. 1 from the funds in their hands received from land sales, and have drawn for payment \$253,000 more, which will be paid March 1, 1882. This will complete the redemption of the issue of \$2,500,000 of Sept. 1, 1868.

Ft. Wayne, Muncie & Cincinnati.—It is stated that the bondholders who bought this road at foreclosure sale will organize the Ft. Wayne, Cincinnati & Louisville Company. It is proposed to consolidate the Whitewater road in the new company; it is owned by the same parties.

Grand Trunk.—The following statement was published in London last week: "According to a telegram received from Canada, the accounts, subject to audit, show payments for the half-year ending June 30 last, of the first and second preference dividends in full, with \$8,000 carried forward to the current half-year."

Herkimer, Newport & Poland.—Track on this road is now laid to Middleville, N. Y., nine miles northward from the junction with the New York Central at Herkimer. An excursion train has been run over the line, and regular trains will be put on as soon as a passenger car arrives.

Indianapolis, Chicago & Northern.—Negotiations are in progress for a consolidation with the Indianapolis &

Delphi. The two companies were recently organized to build railroads on nearly the same line between Indianapolis and Chicago.

International & Great Northern.—Track on the Laredo Extension is now laid to the Nueces River, about 95 miles from San Antonio. The bridge over the Nueces is finished, and work is progressing steadily towards Laredo.

Knoxville & Augusta.—The survey of this road has been completed from the present terminus at Maryville, Tenn., to the Smoky Mountains, 45 miles, and contracts for 30 miles will be let shortly. This 45 miles will be chiefly light work, but on the mountain section there will be some heavy rock cutting.

The company will be consolidated shortly with the Rabun Gap Company, and probably with the Northeastern, of Georgia, also.

It is reported that this company has secured control of the Knoxville & Cincinnati Southern, which has completed the location of a road from Knoxville to the Cincinnati Southern at Emory Gap, and has acquired much of the right of way.

Long Island.—Holders of a large majority of the bonds of the Smithtown & Port Jefferson and the New York & Rockaway branches of this road have voted to accept a proposition made by the company to exchange their present 7 per cent. guaranteed bonds for new 5 per cent. bonds to be secured by a new mortgage, and to be also a general obligation of the Long Island Company.

Louisville, New Albany & Chicago.—A bill has been filed by a stockholder of the former Indianapolis, Delphi & Chicago to set aside the transfer of that road to the Louisville, New Albany & Chicago and the consolidation of the two companies.

The extension of the newly acquired line is now completed to Dolton, Ill., the junction with the Chicago & Western Indiana. Dolton is 68 miles from the eastern terminus at Bradford.

Marietta & Cincinnati.—The last circular of Messrs John A. Hambleton & Co., of Baltimore, speaks as follows of a meeting of the bondholders held last week.

"At a meeting of the Baltimore bondholders of the Marietta & Cincinnati Railroad, held on Friday, the 26th inst., there were present many of our most influential citizens, and although the amount of bonds represented was not definitely known, it was roughly estimated that the parties present held or controlled about \$1,000,000 of the first, second and third-mortgage bonds. A statement was made that an examination of the reports of Mr. King, the Receiver of the Marietta & Cincinnati road, showed that the company was in a very prosperous condition, and that the Receiver's statements on file in the Ross County Court showed that the Marietta & Cincinnati road was earning net \$700,000 per annum. Much indignation was expressed that the reorganization of the road had been so long delayed, and it was the universal sentiment that it was necessary that the bondholders should take steps to protect their interests and to effect an early and satisfactory settlement of the affairs of the road. The sentiment of the meeting seemed to be that an amicable arrangement could be made with the Baltimore & Ohio Railroad, but that if necessary the bondholders should insist upon a foreclosure under either the second or third mortgage and a sale of the road. By agreement with the New York bondholders, who are now represented by a committee of seven, three of their number are to be dropped and their places are to be filled by a like number from the Baltimore bondholders. This committee of seven are to prepare a plan of reorganization of the Marietta & Cincinnati Railroad, which plan is to be submitted to a general meeting of bondholders to be called for that purpose. The committee were also requested to take such action as should be necessary looking to the appointment of a receiver who will manage the affairs of the Marietta & Cincinnati road in the interest of the bondholders. The New York committee consists of Mr. Kountze, of Kountze Bros.; Mr. Dumont, of Jesup, Paton & Co.; Mr. Arents, of Arents & Young; and Mr. Bacon, of the law firm of Field, Dorsheimer, Bacon & Deyo. The Baltimore members of the committee are H. Irvine Keyser, Skipwith Wilmer and T. Edward Hambleton. The bondholders of the Marietta & Cincinnati Railroad may make up their minds, if they have not already done so, that an early reorganization of the road can only be effected by their own action, and the sooner they assert their rights the better. The managers of the Baltimore & Ohio Company are well satisfied with the present state of affairs, and are content to draw 7 per cent. interest on the bonds and 8 per cent. interest on the stock of the Cincinnati & Baltimore and Baltimore Short Line railroads, while the bondholders of the Marietta & Cincinnati road get nothing."

Michigan Central.—The grading is nearly finished on the extension of the Mackinaw Division from Gaylord, Mich., northward to Cheboygan, about 45 miles. Track is laid to Indian River, about 15 miles north of Gaylord. The graders are now at work near Cheboygan, and the ties are being distributed along the line.

Missouri Pacific.—A suit has been begun in the Circuit Court at St. Louis to recover \$850,000 expended by the Atlantic & Pacific Company for equipment while that company was lessee of the Missouri Pacific. This equipment was transferred to the Missouri Pacific at the termination of the lease.

Mt. Pleasant & Latrobe.—This company has been organized to build a road from Mt. Pleasant, Pa., north by east to Latrobe, on the main line of the Pennsylvania Railroad. The distance is about 18 miles.

Neillsville & Northeastern.—This company has filed articles of incorporation to build a railroad from Neillsville, Wis., northeast to Wausau, in Marathon County, about 65 miles. The capital stock is to be \$1,300,000.

New York, Lake Erie & Western.—The work on the Bergen County Short Line, the cut-off or loop line from Rutherford, N. J., to Ridgewood, is now nearly completed. Track is laid from Rutherford north to the Midland crossing between Rochelle Park and Dundee Lake, and the bridge over the Midland road is finished. Freight trains run two miles, from Rutherford to Saddle River, where the Standard Oil Company has established a pumping station and built large oil tanks.

The switchmen and yardmen at Hornellsville and Salamanca on the Western Division, who struck on Aug. 18 for a restoration of the 10 per cent. taken from their wages in 1877, which they claim all the other trunk lines have restored, returned to work after being out about a week. They resumed work practically without conditions, although they claim to have the promise of the General Superintendent and the Division Superintendent to use their utmost endeavors to induce the company to grant the increase. The strike on the Buffalo Division is also about over, though some of the men on that division still hold out. Some of them have gone back to work, and the places of others have been filled as far as possible with new hands and a few men from the Eastern

Division. The strike caused much delay in the movement of freight, and the road is still partly blocked.

New York, Susquehanna & Western.—This company has executed and recorded a mortgage to secure \$5,500,000 bonds to be issued in accordance with the terms of consolidation.

Richard P. Terhune, of Hackensack, N. J., a holder of stock and bonds of the Midland Company, of New Jersey, has begun suit to enjoin this company from issuing new bonds, on the ground that the consolidation of the Midland and other companies, by which the present company was formed, is illegal and void. Argument on the application was heard before the Court of Chancery in Newark, N. J., Aug. 29. The Vice-Chancellor reserved his decision.

Niagara River Transit Co.—The special act to incorporate this company with power to build a tunnel under the Niagara River was passed by the late Legislature of New York shortly before its adjournment, and has recently been signed by the Governor. It authorizes the company to join with any other company or association duly chartered by the Dominion of Canada to build a tunnel from Buffalo under the river to Fort Erie on the Ontario side. The tunnel must be begun within three years and finished within 10 years. The stock is to be \$1,500,000, with privilege of increase to \$3,000,000. The company is required to give equal privileges to all railroads which may desire to use the tunnel when built.

Pennsylvania & Martin's Creek.—Work has been begun on this road, which is to run from the Delaware River at the mouth of Martin's Creek in Northampton County, Pa., by Bangor and Pen Argyl to the Wind Gap, about 15 miles. The road will cross the Delaware on a bridge and will connect on the New Jersey side of the river with the Belvidere Division of the Pennsylvania Railroad.

Peoria & Western.—This company has filed articles of incorporation to build a railroad from Peoria, Ill., southwest to Quincy, about 110 miles, through a country already pretty well covered with railroads.

Pine Bluff, Arkadelphia & Texarkana.—This company has filed articles of incorporation to build a railroad from Pine Bluff, Ark., west to Arkadelphia and thence southwest to Texarkana, about 145 miles.

Point Pleasant & Ohio River.—This company has been incorporated to build a railroad from Point Pleasant, W. Va., at the mouth of Great Kanawha, north about 14 miles to a point nearly opposite Pomeroy, O. The incorporators are all connected with the Richmond, Allegheny & Ohio Central Company.

Potomac, Fredericksburg & Piedmont.—In the suit of Karns and others against this company, L. H. Richards and others, the United States Circuit Court in Philadelphia has refused to enjoin the proposed sale of the road to the Atlantic & Ohio Company, but has ordered that the Guarantee Trust Company, of Philadelphia, be appointed Receiver in the case, to hold the money paid for the road in trust, until the Court decides which of the parties in the case is entitled to it.

Quebec, Montreal, Ottawa & Occidental.—A report comes from Quebec that a syndicate of French capitalists has made a proposition for the purchase of this road from the province of Quebec. In case the proposition is accepted, it is said that the purchasers will connect the road with the lines south of the St. Lawrence by building the proposed tunnel under the river near Montreal.

Richmond & Allegheny.—Track on this road is now laid to Holcomb's Rock, Va., 12 miles westward from the late terminus at Lynchburg, and 158 miles from Richmond. On the western end track is also laid for 10 miles east from North River and 65 miles from Williamson, leaving a gap of only seven miles to be completed, from Holcomb's Rock to Big Island.

Work is also well advanced on the branch from Balcony Falls to Lexington, and the company expects to have it completed in October. Arrangements have been already made for a connection with the Valley road and an exchange of traffic, when that road is completed to Lexington, which will hardly be this year.

A dispatch from Richmond, Aug. 26, says: "The case of the Richmond & Allegheny Railroad Company, in the matter of the application of George B. Harrison on the part of himself and other stockholders for an injunction to restrain said company from consolidating with the Ohio Central and Atlantic & Northwestern Railroad companies, was before Judge Christian this morning for a hearing. The demurrer and answer of the railroad company having been previously filed, the complainant, who is also of counsel in the case, stated to the Court that he wished to withdraw the application for an injunction for the reason that the answer of the company had given all the information he desired, and that it had shown that the company did not intend to do anything against law and equity, nor anything to conflict with legislative enactments in connection with the incorporation of the company. The Court thereupon dismissed the further hearing of the case."

St. Louis, Keokuk & Northwestern.—As noted a short time ago, a controlling interest in this road has been sold to parties in the Chicago, Burlington & Quincy interest, and last week three officers of that company were chosen directors. It is stated that there will be no further changes made this year, but the question of a lease of the road from Jan. 1 next is under consideration. The road extends from Keokuk, Ia., down the west side of the Mississippi to St. Peter, Mo., on the Wabash. St. Louis & Pacific, 32 miles from St. Louis.

St. Paul, Minneapolis & Manitoba.—The line on the west side of Grand River is now completely graded from Grand Forks, Dak., north to the Manitoba line, about 100 miles. It is said that this branch will be completed this year.

Work has been progressing lately on the Red River & Northern Branch, which was last year completed for 48 miles, from Breckenridge, Minn., northwest to Durbin, Dak. The track is now laid for 24 miles northwest from Durbin, carrying it about 15 north of the Northern Pacific, which it crosses 3 miles west of Casselton. It is understood that this branch will go to Ft. Totten.

San Francisco & Ocean Shore.—The surveys have been completed for this road from San Francisco along the Pacific shore to Santa Cruz, and work has been begun on the grading.

Texas & Pacific.—Track on the Rio Grande Division is now laid to the Pecos River, 35 miles westward from the last point noted, 437 miles from Dallas, and 657 miles from Texarkana. The Pecos crossing is completed and track-laying is progressing westward.

Texas & St. Louis.—This company has filed articles of amendment to its charter with the Secretary of State of Texas, changing the name of the corporation to the Texas & St. Louis Railway Company in Texas, and dividing the capital stock into shares of \$100 each, instead of \$500 as

heretofore. They also provide for constructing a line of railroad from a point in Collin County at or near Fort Worth, and a branch line from a point at or near Gatesville, Coryell County, to Coleman City.

Toledo, Cincinnati & St. Louis.—Work has been progressing steadily on the eastern end of this road, and track is now laid to the Louisville, New Albany & Chicago crossing at Linden, Ind., 23 miles west by south from the terminus of the old Frankfort & Kokomo road, which was bought by this company. This makes the road 50 miles long, from Kokomo to Linden.

Troy & Elba.—This company has been organized to build a railroad from Elba, Ala., northward about 45 miles to Troy, the terminus of the Mobile & Girard road. The section south of Troy is entirely without railroad communication. The office of the company is at Elba, Ala.

Utah & Northern.—Certificates have been filed with the Secretary of the territory of Montana providing for the extension of this road from its late terminus at Dillon by Three Forks and Bedford to Helena in that territory. Also for the building of branches from Gallatin to the Yellowstone National Park; from Helena to Sun River and Ft. Benton, and from Butte to Deer Lodge, Missoula and Walkerville.

Villard Enterprises in Oregon.—A correspondent of the New York World, writing from Portland, Or., says:

"The new meteor, or comet, that has blazed for a couple of years past on the railroad sky—named Villard—seems fairly transformed into a star of the first magnitude. Certain it is that this star is ascendant in the Pacific Northwest, for there is no transportation route of any importance north of San Francisco, on ocean, sound or river, or any railroad track that does not follow its guidance. The whole Northwest coast country north of California and west of the Rockies, and the region tributary to the Northern Pacific route from Lake Superior west, is under the Villard direction, and people begin to wonder when it will end and what it will attempt. Years ago we all prayed and begged for railroads, and now we are listening already to popular oratory about the necessity of passing 'Granger laws' to hold the monster in check. At present the monster is a phenomenon that astonishes the world and builds railroads where we need them, and gives us hope for the future that seemed useless awhile ago, and probably it will be time enough to criticize its motives and legislate against it when its work is more nearly finished and its programme fully laid out. The construction of a railroad down the Columbia River from the Dalles, a distance of about 100 miles, will be completed the present year, and herculean work is done along the gorge of the great river, which was not exactly cut and carved to accommodate the grade of the coming railway. When that is done we shall have connection by rail with a great interior, and soon afterward with Puget Sound, and within two years more with Chicago, via the Northern Pacific; with Salt Lake, via the Union Pacific road, via the now building Oregon Branch; with Puget Sound as soon as the gap from Portland to Kalama is filled, and with California via the Oregon & California route, which has passed under Villard's management also, and is to be pushed south from Roseburg. Besides these, we shall have a road down the Columbia, or rather across from the Willamette Valley to Astoria, and then we shall not have much left to hope for in the way of railroads. Villard is doing wonders, and we have no desire to stop his construction before his work is done. When it is done the Pacific Northwest will be annexed to the great world—no mistake about that—and the days of our development will be shortened. To one who came here 31 years ago and has waited ever since for a Villard to spring up and work these miracles, the movements of to-day are very satisfactory, for a man naturally wishes to see things in his lifetime and cannot live forever."

Wabash, St. Louis & Pacific.—This company gives notice that it will issue 5,632 shares of new preferred stock and 5,632 shares new common stock to carry out the terms of the consolidation or purchase of the new Detroit, Butler & St. Louis road.

The formal transfer of the Indianapolis, Pem. & Chicago road to this company will be made Sept. 1. That road will then become part of the Indianapolis & Detroit Division. The company has executed and recorded a mortgage for \$2,000,000 upon the road, to secure the bonds to be issued in payment for it.

West Virginia Railroad Incorporations.—Fifty-two railroad companies have been incorporated in West Virginia within the last nine years, as follows: Guyandotte, April 18, 1873; Tug River, April 22, 1873; Gauley River, May 16, 1873, and again, March 2, 1874; Pennsboro & Harrisville, May 22, 1873; Shenandoah Valley & Ohio, Aug. 16, 1873; Point Creek, Aug. 29, 1873, and March 29, 1879; Mud River, Dec. 6, 1873; Wheeling & Benwood, June 5, 1874; Wheeling & Elmgrove, June 5, 1874; West Virginia Central, Oct. 6, 1874, with assignment and reincorporation Oct. 1877, and again incorporated Aug. 25, 1879; New River Railroad, Mining & Manufacturing Company, Dec. 19, 1874; Ripley & Ohio Narrow Gauge, Jan. 18, 1875; Weston & West Fork, March 4, 1875; West Virginia Division of the People's Freight Company, April 16, 1875; West Virginia, April 29, 1875; Ripley, Cottageville & Ohio, narrow gauge, April 30, 1877; Cumberland & North Branch, May 31, 1877; Hawk's Nest & Gauley River, Nov. 14, 1877; Pittsburgh, West Virginia & Southern, Jan. 25, 1878; Monongahela Valley, March 4, 1878; Clarksburg, Weston & Glenview Railroad & Transportation Company, Aug. 6, 1878; Potomac & Ohio, June 29, 1878; Oil Spring Valley, Oct. 17, 1878; Cumberland, Moorefield & Petersburg, Jan. 2, 1879; New River, Piney & Guyandotte, May 23, 1879; Wheeling & Parkersburg, Dec. 1, 1879; Buckhannon & Weston, Feb. 19, 1880; Big Sandy & Great Southern, March 25, 1880; Keyser & Pendleton, May 29, 1880; Pittsburgh & Southwestern, June 8, 1880; New Martinsville, Middlebourne & Pennsboro, June 18, 1880; Eureka, Cochransville & Cornwell, Aug. 28, 1880; West Virginia, May 1, 1880; Weston & Webster, Jan. 5, 1881; West Virginia Central, Jan. 5, 1881; Baltimore, Cincinnati & Western Railroad, Oct. 26, 1880; incorporated also Nov. 18, 1880; Baltimore, Cincinnati & Western Central, Jan. 17, 1881; Baltimore & St. Louis, Feb. 2, 1881; Richmond, Toledo & Chicago, Feb. 21, 1881, and May 9, 1881; Blue-stone, Feb. 26, 1881; Savannah, March 7, 1881; Iron Valley & Morgantown, March 25, 1881; Pittsburgh, Southern, April 6, 1881; Grafton & Greenbrier, April 18, 1881; Wheeling, Parkersburg & Charleston, April 18, 1881; West Virginia & Ohio Mineral, April 27, 1881; East River, April 28; Kanawha & Raleigh, May 23; Kanawha, June 9; Piney, Coal & Guyandotte, June 30; Kanawha & Coal River, June 24, and West Virginia & Pennsylvania, July 25, 1881.

Wisconsin Central.—Surveys are being made for a branch to run from Penokee, Wis., east by north, along the Penokee Iron Range, a distance of 25 miles. It is understood that this branch will be built soon, and that it will be hereafter extended to Ontonagon, Mich., about 80 miles from Penokee.

ANNUAL REPORTS.

The following is an index to the reports of companies which have been reviewed in previous numbers of this volume of the Railroad Gazette:

Page.	Page.		
Alabama Great Southern.....	286	Maine Central.....	161
Atchafalaya, Topeka & Santa Fe.....	287	Manchester & Lawrence.....	310
Atlanta & Charlotte Air Line.....	315	Marietta & Cincinnati.....	133
Atlanta & West Point.....	476	Michigan Central.....	266, 272
Baltimore & Hanover.....	408	Midland, of New Jersey.....	225
Baltimore & Potomac.....	315	Mt. Lake Shore & Western.....	354
Boston, Concord & Montreal.....	415	Missouri, Kansas & Texas.....	354
Boston, Hoosac Run, & West.....	12	Missouri Pacific.....	92
Boston & Lowell.....	27	Mobile & Girard.....	394
Bur., Cedar Rapids & No. 105.....	120	Mobile & Ohio.....	315
Bur., & Northwester.....	313	Monmouth & Wells River.....	447
Calro & St. Louis.....	228	Morris & Essex.....	290
Canada Southern.....	315	Nashua & Lowell.....	290
Canadian Railroads.....	408	Nashville, Chatta. & St. L.....	373
Cape Fear & Yadkin Valley.....	284	Nevada County.....	373
Carolina Central.....	310	New Haven & Northampton.....	26
Central Iowa.....	164	N. Y., N. H. & Hartford.....	11
Central of New Jersey.....	176	Pennsylvania & Ohio.....	131
Charlotte, Col. & Augusta.....	228	N. Y. State R. R. & N. Y. 106, 102	152
Chicago & Alton.....	133, 151	Norfolk & Western.....	349
Chl., Burlington & Quincy.....	180	Northeastern (S. C.).....	27
Chl. & Green Bay.....	228	Northern Central.....	27
Chicago & North Western.....	404	Northern (New Hampshire).....	291
Chl., Rock Island & Pac.....	301, 307	Ogdensburg & Lake Champlain.....	354
Cin., Hamilton & Dayton.....	330	Ohio & Mississippi.....	132
Cin., Richmond & Ft. Wayne.....	59	Paduah & Elizabethtown.....	207
Cincinnati Southern.....	373	Panama.....	207
Cin., Wabash & Michigan.....	373	Pennsylvania Company.....	447
Cleve. Col. Cin. & Ind.....	37, 206	Pennsylvania & New York.....	44
Columbia & Green Bay.....	476	Pennsylvania Railroad.....	373
Col. & Hooking Valley.....	130	Pennsylvania & Potomac.....	354
Columbus & Toledo.....	333	Philadelphia & Reading.....	422
Concord.....	290	Phila. W. & Baltimore.....	11
Consolidated Coal Co.....	164	Pitts. Castle Shannon.....	120
Dayton & Union.....	48	Pitts. Cin. & St. Louis.....	271
Delaware.....	59	Pitts. Fort Wayne & Chicago.....	291
Del. & Hudson Leased Lines.....	44	Pitts. & Lake Erie.....	28
Delaware & Hudson Canal.....	105	Pitts., Titusville & Erie.....	27
Del., Lack. & Western.....	130	Pitts. & Ogdensburg.....	351
Delaware Western.....	76	Portland & Rochester.....	394
Denver & Rio Grande.....	151, 330	Port Royal & Augusta.....	195
Eastern R. & N. Association.....	393	Prince Edward Island.....	401
Eureka & Fallsdale.....	102	Providence & Worcester.....	426
Fitchburg.....	12	Pullman Southern Car Co.....	291
Flint & Pere Marquette.....	291	Richmond & Danville.....	60
Gal., Har. & San Antonio.....	195	Richmond, Fred. & Potomac.....	27
Georgia R. & Banking Co.....	296	Rome, W. & Ogdensburg.....	373
Grand Trunk.....	284	Rutland.....	427
Great Western, of Canada.....	235	St. Johns & Lake Champlain.....	476
Gulf, Col. & Santa Fe.....	151	St. Louis Bridge Co.....	130
Hannibal & St. Joseph.....	183	St. Louis, Iron Mt. & Southern.....	130
Houston.....	331	St. Louis & San Francisco.....	12
Houston & Texas Central.....	315	Savannah.....	176
Illinois Central.....	76, 123	Savannah, Florida & Western.....	401
Indiana, Bloom. & West.....	78	South Carolina.....	195
Indianapolis & St. Louis.....	475	Southern Pacific.....	331
Intercolonial.....	76	Terre Haute & Indianapolis.....	448
Jeff. Madison & Indianapolis.....	105	Troy & Boston.....	427
Junction & Breakwater.....	331	Troy & Greenfield.....	427
Kentucky Central.....	76	Union Pacific.....	152, 164
Knox & Lincoln.....	164	Utah Southern.....	195
Lake Shore & Mich. So.....	256, 256	Utica & Black River.....	354
Lehigh Coal & Nav. Co.....	105	Virginia & Truckee.....	354
Lehigh Valley.....	44	Wabash, St. L. & Pac.....	104, 176
Ligonier Valley.....	43	West Jersey.....	475
Little Rock & Fort Smith.....	224	Wilmington & Northern.....	296
Long Island.....	27	Wisconsin Central.....	331
Louisville & Nashville.....	373	Worcester & Nashua.....	76
Louisville, New Albany & Chi. 104			

Detroit, Grand Haven & Milwaukee.

This company, successor to the Detroit & Milwaukee through foreclosure, owns a line from Detroit to Grand Haven on Lake Michigan, 189 miles, with 38.02 miles of sidings. The report is for the year ending Dec. 31.

The equipment consists of 43 locomotives; 87 passenger and 9 mail and baggage cars; 371 box, 25 stock and 127 platform cars; 45 service cars.

The road is controlled and the stock chiefly owned by the Great Western Company, of Canada.

A line of steamers is run in connection with the road across Lake Michigan between Grand Haven and Milwaukee.

The stock and debt is stated as follows:

Stock (\$7.937 per mile).....	\$1,500,000
Bonds (\$27.180 per mile).....	5,200,000
Current balances.....	270,148
Total.....	\$6,970,148

The bonded debt consists of \$3,200,000 consolidated 5 per cent. bonds, and \$2,000,000 equipment 6 per cent. bonds. The consolidated bonds will bear 8 per cent. interest after 1883.

The traffic for the year was as follows:

Train miles	1880	1879.	Inc. or Dec.	P. c.
Passenger.....	395,012	394,212	I.	800 0.2
Freight.....	317,191	360,534	D.	43,343 12.0
Serv.ce.....	35,800			
Total.....	748,003			
Passengers car-ried.....	489,093	434,246	I.	55,447 12.0
Passenger miles, 16,897,431		14,643,030	I.	2,254,401 15.0
Tons freight car-ried.....	476,425	444,903	I.	31,522 7.1
Ton miles.....	47,589,095	49,824,759	D.	2,235,664 4.5
Av. train load:				
Passengers, No.....	42.78			
Freight, tons.....	150.03			

Of the tons carried 36.2 per cent. were grain and flour, 13.1 per cent. lumber and 5.5 per cent. coal. Of the ton miles 50.5 per cent. were through freight. The rate per ton per mile was, on through freight 0.627 cent; local, 2.386 cents; average of all, 1.498 cents. Earnings per train mile were 170 cents; expenses, 114.6 cents; net, 55.4 cents.

The earnings for the year were as follows:

	1880.	1879.	Inc. or Dec.	P. c.
Passengers, etc.....	\$504,756.52	\$444,357.50	I.	\$60,399.02 13.6
Freight.....	713,870.51	663,629.21	I.	50,241.30 7.6
Miscellaneous.....	1,449.91	4,475.96	D.	3,026.05 67.2
Total.....	\$1,220,076.94	\$1,112,462.67	I.	\$107,614.27 9.7
Expenses.....	\$16,264.19	\$14,384.16	I.	\$1,880.03 9.7
Net earnings.....	\$1,203,812.75	\$1,098,078.51	I.	\$105,734.24 9.7
Gross earnings per mile.....	6,455.43	5,886.04	I.	569.39 9.7
Net earnings per mile.....	2,136.58	1,947.51	I.	189.07 9.7
Per cent. exps.....	66.90	66.92	D.	0.02

The income and expenses increased in almost exactly the same ratio. The net earnings were the largest ever reported for this road; the gross earnings were the largest for a number of years.

The disposition of net earnings was as follows:

Net earnings.....	\$403,812.75
Interest account.....	\$282,056.45
Dividend, 3 per cent.....	45,010.00
Total.....	\$32,745.34

Balance to profit and loss..... \$76,745.34
There was paid during the year for mileage or hire of cars, \$27,447.20, the largest item being \$16,760.40 to Newberg & McMillan.

During the year an iron bridge 462 ft. long was built over Grand River, near Ionia. There were 171,069 feet of lumber used in repairs of bridges.

There were 1,015 persons in the employ of the company, of whom 967 were in Michigan.

During the year three passengers and five employes were injured; three persons were killed and five hurt at road crossings or while walking on the track.

Camden & Atlantic.

This company owns a line from Camden, N. J., to Atlantic City, 60 miles, and works under lease the May's Landing Railroad, from Egg Harbor to May's Landing, 7 miles. It also works a steam ferry across the Delaware between Camden & Philadelphia.

The equipment consists of 16 locomotives; 84 passenger and baggage cars; 157 freight cars and 8 horse cars. The horse cars are run on the main track in Atlantic City.

The general account is as follows:

Common stock.....	\$377,400.00
Preferred stock and scrip (\$205.75).....	880,855.75
Total stock (\$20,971 per mile).....	\$1,258,255.75
Bonded debt (\$18,044 per mile).....	1,082,650.65
Current accounts, etc.....	116,188.47
Bills payable and temporary loans.....	163,355.63
Profit and loss.....	429,570.81
Total.....	\$3,050,000.71
Road, ferry, etc. (\$48,042 per mile).....	\$2,882,328.80
Materials.....	91,525.37
Stocks owned.....	33,032.84
Bills and accounts receivable.....	22,110.93
Cash.....	20,792.77
Total.....	3,050,000.71

The bonded debt consists of \$490,000 first-mortgage 7 per cent. bonds; \$497,000 second-mortgage 6 per cent. bonds; \$95,400 bonds and mortgages on land, and \$250.65 old coupon scrip.

The traffic reported was as follows on the main line:

	1880.	1879.	Inc. or Dec.	P. c.
Locomotive miles.....	349,410	296,511	I.	52,908 17.8
Pass. car miles.....	1,197,881	1,142,638	I.	55,243 4.8
Freight car miles.....	816,991	670,838	I.	146,153 21.8
Cost per train mile.....	87 cts.	79 cts.	I.	7.9 cts. 10.9
Cost per car mile.....	15.0	12.9	I.	2.1 " 16.3

On the May's Landing Branch the engine mileage was 10,844; car mileage, 15,784, at a cost of 39.1 cents per train mile and 26.8 cents per car mile.

The average mileage per engine on the main line was 23,295 miles for the year. A very large part of the engine and car mileage is made in about three months of the year. The business is carried at very low rates, a large part of the passengers having been carried at a fare which is less than half a cent a mile.

The earnings and expenses were as follows:

	1880.	1879.	Inc. or Dec.	P. c.
Passengers.....	\$292,589.81	\$311,538.44	D.	\$18,948.63 6.1
Freight.....	106,958.62	82,887.92	I.	24,070.70 29.0
Express, etc.....	44,428.06	47,844.92	D.	3,416.86 7.1
May's Landing Br.....	3,135.10	3,359.77	D.	224.68 6.6
Ferry.....	51,726.66	49,842.20	I.	1,884.46 3.8
Total.....	\$498,838.34	\$495,472.95	I.	\$3,365.39 0.7
Road expenses.....	327,28.49	253,245.92	I.	73,982.57 29.2
Ferry.....	30,033.00	30,033.80	I.	5,023.20 16.7
May's Landing Br.....	9,339.40	10,066.04	D.	726.64 7.3
Total.....	\$371,626.89	\$293,345.76	I.	\$78,281.13 26.7

Net earn..... \$127,211.45 \$202,127.19 D. \$74,915.74 37.1

Per cent. of exps..... 74.50 59.21 I. 15.29

The earnings of the main line, excluding ferry, were \$7,400 per mile. The road was worked through the year under competition from two parallel lines, and both freight and passenger business was carried at excessively low rates.

The income account was as follows:

Net earnings.....	\$127,211.45
Interest.....	\$76,761.33
State tax and arrears, four years.....	22,598.36
Sundry items.....	5,369.20
Total.....	\$104,728.89

Surplus for the year..... \$22,482.56

Received from Sea View Hotel Co..... 5,000.00

Total..... \$27,482.56

This sum is accounted for as follows:

New construction, new equipment and new ferry boat.....	\$178,807.89
Increase of floating assets.....	74,806.19
Total.....	\$253,704.08
Increase of floating debt.....	226,221.52
Balance.....	\$27,482.56

The increase in floating assets is in stock and bonds owned and in materials; that in floating debt chiefly in bills payable and loans.

During the year a scrip dividend of 3½ per cent. was paid from the earnings of 1879.

During the year 976 tons of steel and 69 tons of iron rails and 42,524 ties were used in renewals, and 564 tons of steel rails in completing the second track to Haddonfield, seven miles from Camden. About two-thirds of the main line are now of steel. Iron bridges replaced wood at Cedar Bridge, Bishop's Bridge and Jonathan's Thoroughfare. The new ferry house and yard at Camden were completed and a second ferry acquired, running to the upper part of Philadelphia. A new iron ferry boat was bought, and one of the old ones rebuilt. Two engines, 10 passenger and 20 dump cars were added to the equipment.

The company has subscribed \$40,000 to aid the building of the branch from Haddonfield to Medford.

The May's Landing road is in a dilapidated condition, and requires a large expenditure to put it in order. It is of no value, causing a considerable yearly loss, and the dropping of the lease is recommended.

Louisville & Nashville.

This company publishes the following statement of earnings by months for the fiscal year ending June 30, in advance of the publication of the full annual report: